

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: P195313

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-7060-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195313
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-01-D-UNV-T2R-7060-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 5700K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4218 lumens
Efficiency: N/A
Efficacy: 124.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 34
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

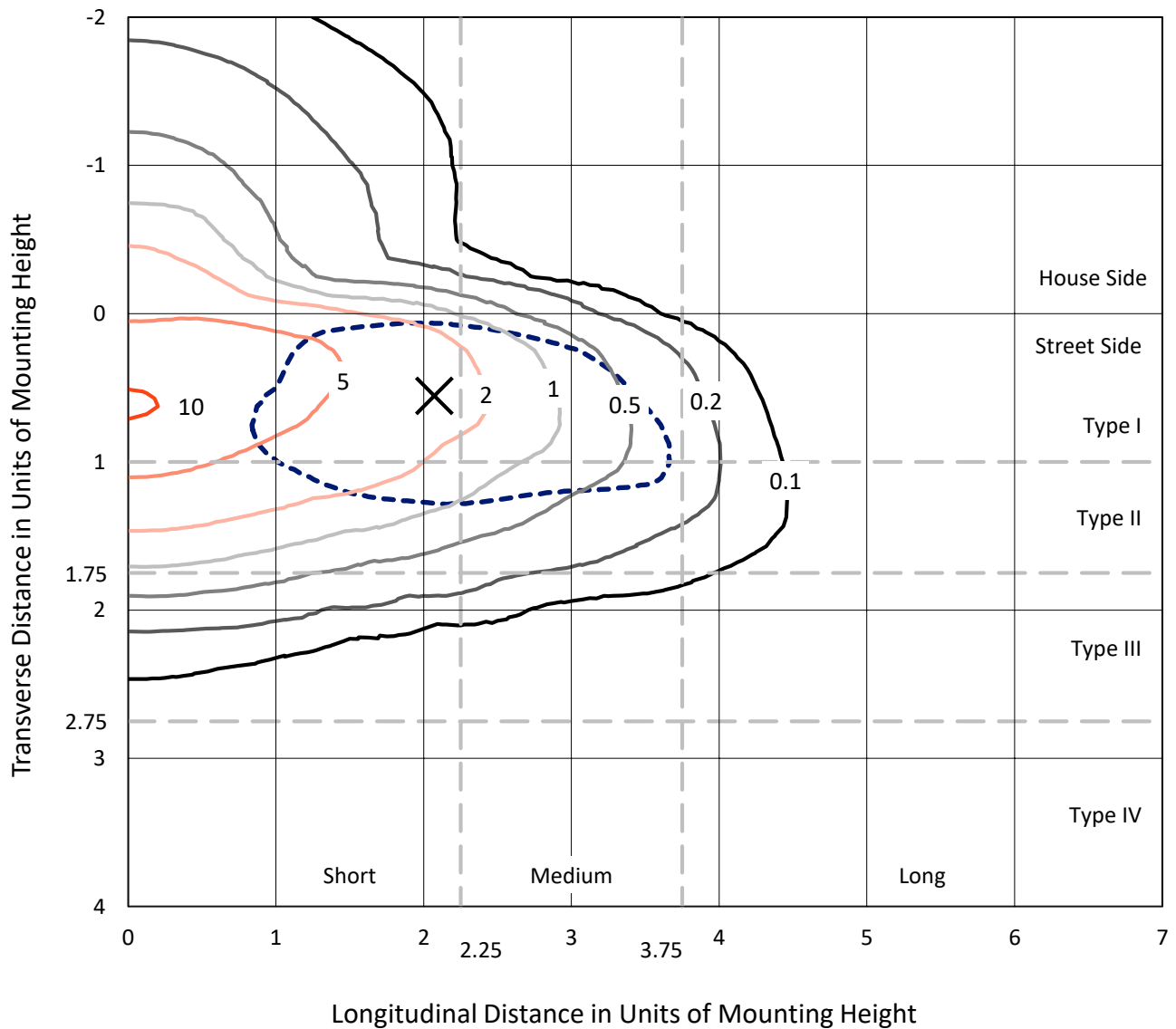


REPORT NUMBER: P195313

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-600

Iso-Footcandle Lines of Horizontal Illumination

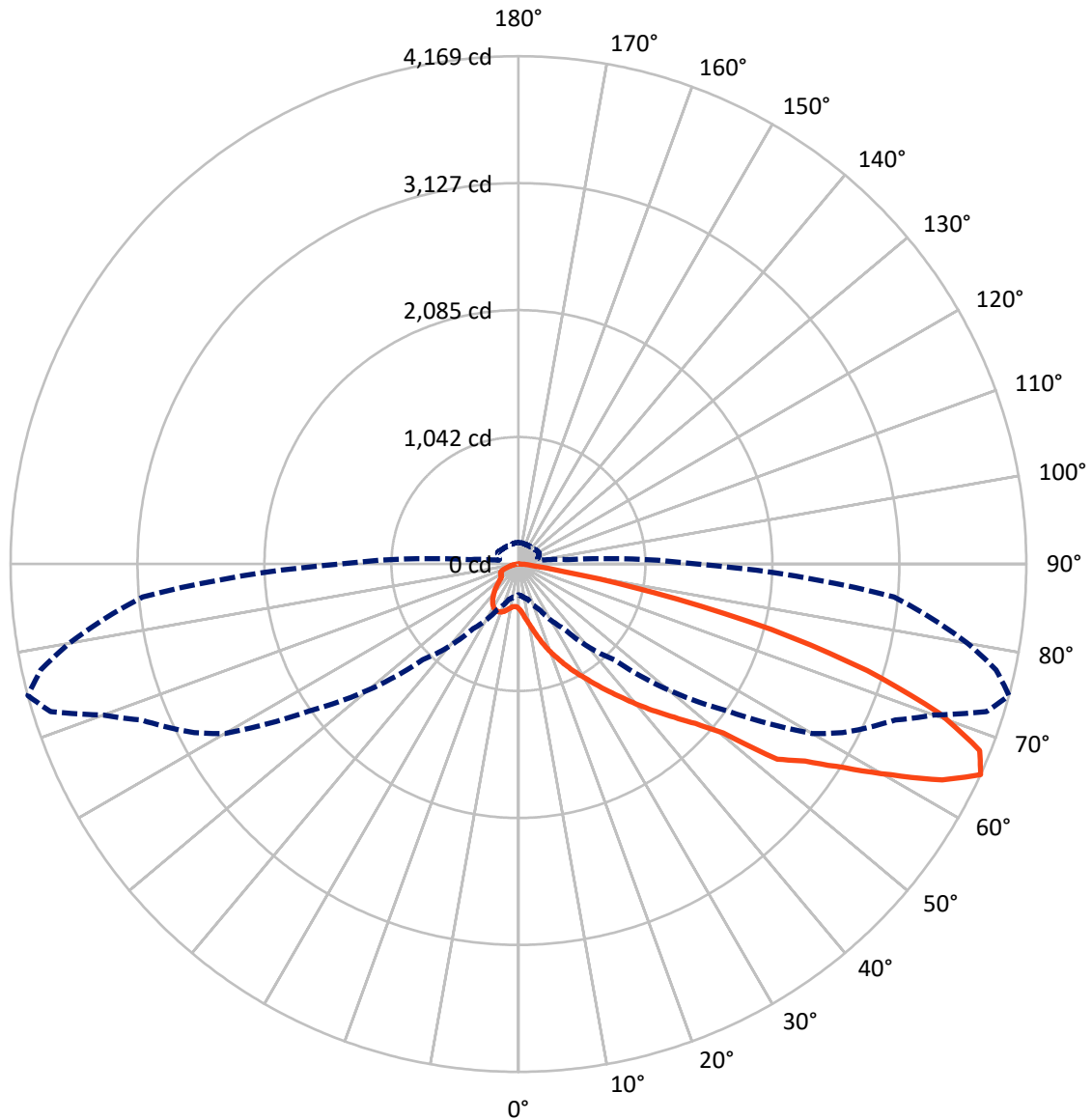
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.5 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P195313
CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-600

Luminous Intensity Polar Plot



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

REPORT NUMBER: P195313

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	633.8	0.0	633.8
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	3584.2	0.0	3584.2
	% Fixture	85.0	0.0	85.0
Total	Lumens	4218.0	0.0	4218.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.1	1.0
10°-20°	164.8	3.9
20°-30°	332.6	7.9
30°-40°	564.8	13.4
40°-50°	787.8	18.7
50°-60°	965.5	22.9
60°-70°	908.4	21.5
70°-80°	398.3	9.4
80°-90°	52.7	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°	4218.0	100.0
0°-180°	4218.0	100.0



REPORT NUMBER: P195313

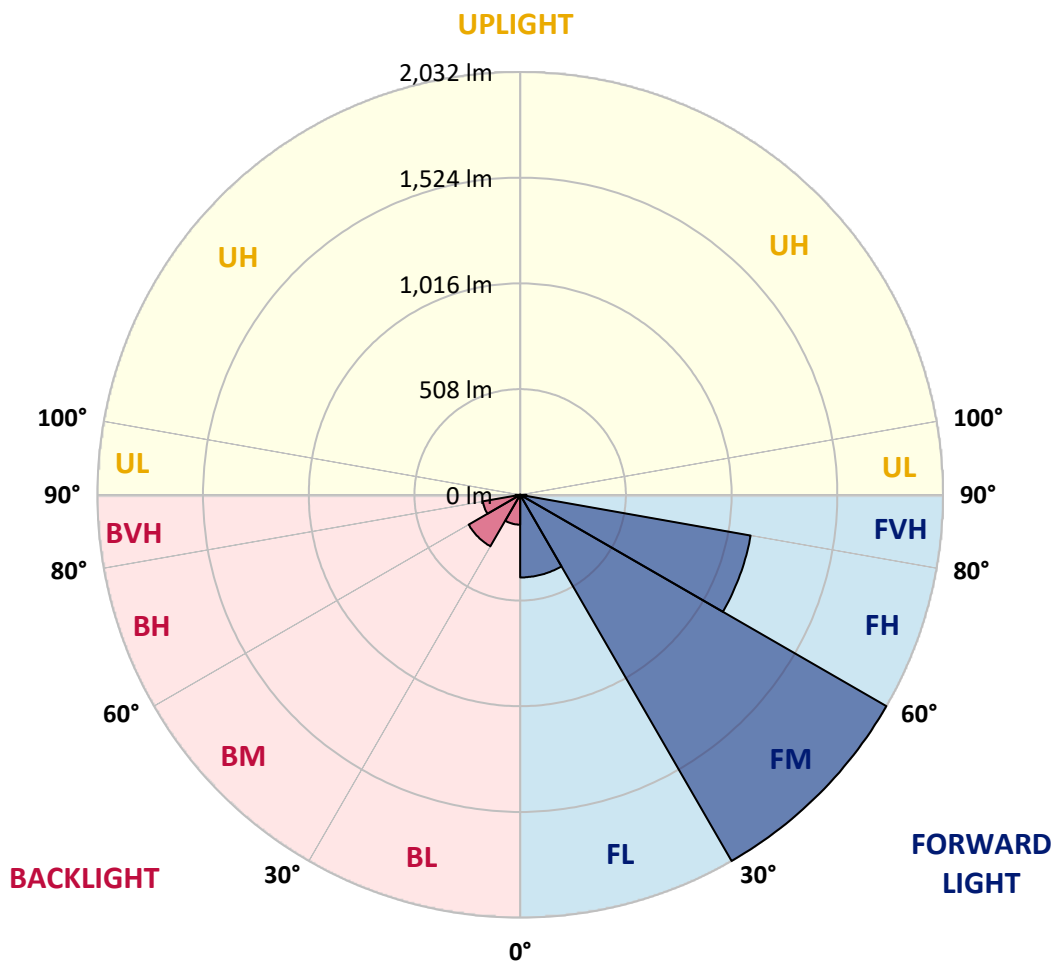
CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	397.0	9.4			
FM (30°-60°)	2032.0	48.2			
FH (60°-80°)	1124.6	26.7			G1/1800
FVH (80°-90°)	30.6	0.7			G1/100
BL (0°-30°)	143.5	3.4	B1/500		
BM (30°-60°)	286.0	6.8	B1/1000		
BH (60°-80°)	182.2	4.3	B1/500		G1/500
BVH (80°-90°)	22.2	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-G1

Type II Short





REPORT NUMBER: P195313

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5
2.5°	460.2	454.8	455.4	447.8	436.8	424.8	414.8	409.5	404.9	403.6	396.1
5°	601.9	595.2	592.7	575.6	549.8	519.2	488.9	477.1	467.4	461.5	447.0
7.5°	717.8	714.3	711.1	695.2	669.7	630.6	581.7	564.3	548.2	530.5	513.0
10°	796.7	795.3	794.0	783.0	761.8	727.7	675.1	656.1	635.9	613.4	590.6
12.5°	856.2	856.2	857.3	848.2	835.3	809.0	761.2	743.5	723.1	699.5	673.5
15°	896.2	897.3	902.9	905.6	898.9	882.0	840.1	824.6	805.3	781.9	756.2
17.5°	922.8	924.9	933.2	942.1	950.7	944.8	913.7	899.2	881.7	860.3	836.1
20°	984.5	981.8	982.1	979.4	992.0	996.6	979.4	967.3	953.4	933.8	911.8
22.5°	1114.1	1109.0	1095.9	1062.3	1047.0	1045.4	1035.2	1028.8	1018.0	1005.7	983.7
25°	1283.1	1277.2	1251.2	1195.9	1150.3	1108.2	1089.4	1085.4	1078.4	1070.1	1054.3
27.5°	1457.8	1451.4	1417.8	1348.1	1288.5	1203.5	1145.0	1139.6	1133.2	1129.7	1122.2
30°	1611.6	1604.6	1571.6	1500.8	1428.9	1327.4	1219.8	1201.0	1190.0	1191.1	1186.8
32.5°	1746.6	1740.4	1703.4	1631.2	1558.2	1459.7	1317.0	1287.7	1263.0	1253.9	1257.1
35°	1859.8	1854.2	1813.6	1740.9	1667.4	1585.6	1442.0	1398.0	1357.7	1332.5	1329.6
37.5°	1926.3	1923.1	1894.7	1833.0	1760.0	1699.9	1582.1	1533.2	1473.9	1437.2	1421.1
40°	1922.6	1926.1	1921.2	1893.3	1836.7	1793.0	1728.0	1679.7	1621.8	1567.0	1534.3
42.5°	1867.8	1872.7	1894.4	1908.9	1893.6	1867.0	1855.5	1819.5	1767.5	1709.5	1664.2
45°	1792.7	1797.0	1825.2	1877.5	1921.2	1928.7	1967.1	1949.1	1905.1	1855.8	1805.9
47.5°	1677.6	1685.9	1718.6	1801.8	1905.9	1978.4	2060.8	2069.1	2043.6	2002.8	1956.1
50°	1511.0	1522.0	1567.8	1686.2	1848.0	2029.4	2200.0	2231.7	2221.5	2180.2	2132.9
52.5°	1340.3	1351.3	1412.5	1538.3	1754.6	2050.3	2337.1	2418.2	2476.7	2519.3	2527.7
55°	1162.7	1175.0	1242.1	1387.0	1630.1	2023.7	2435.1	2527.1	2586.4	2631.0	2648.9
57.5°	962.2	976.2	1041.1	1187.6	1454.1	1916.9	2544.0	2674.4	2762.7	2831.4	2870.0
60°	732.3	749.7	817.1	964.6	1222.8	1712.5	2592.6	2785.5	2925.9	3028.9	3090.1
62.5°	464.2	481.9	552.0	705.2	959.5	1433.1	2455.2	2736.7	2976.0	3128.4	3240.6
65°	253.3	261.1	300.0	415.4	646.9	1112.0	2106.9	2438.8	2783.6	2999.6	3171.9
67.5°	190.0	191.1	195.1	223.2	344.5	750.8	1647.3	1951.3	2334.2	2612.2	2818.0
70°	166.4	166.4	166.9	167.2	187.0	406.8	1116.0	1395.8	1746.8	2028.0	2283.7
72.5°	149.2	147.6	147.0	143.8	146.5	208.5	607.5	858.9	1154.9	1470.4	1709.0
75°	128.8	128.5	128.5	125.3	126.9	146.8	263.5	412.2	641.6	935.4	1170.2
77.5°	111.4	109.5	109.7	107.9	113.0	112.4	125.0	169.9	279.3	491.3	686.1
80°	91.8	90.4	91.2	90.2	98.2	83.2	84.3	103.8	138.7	215.5	303.7
82.5°	67.9	68.4	73.5	73.0	82.6	56.1	61.7	77.5	93.4	107.3	116.7
85°	39.7	40.5	52.9	55.5	60.6	29.5	37.8	46.2	52.1	57.7	60.1
87.5°	4.3	5.6	29.5	30.3	27.1	8.9	15.3	19.3	20.7	22.0	19.3
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: P195313

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-600

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5
2.5°	393.6	390.2	386.4	384.2	380.5	377.3	371.4	366.5	361.2	357.4	355.8
5°	439.8	431.5	422.6	416.2	408.1	401.2	387.7	371.6	366.5	355.8	353.1
7.5°	499.9	484.9	469.8	457.5	443.5	432.0	409.5	380.5	376.7	359.6	355.8
10°	570.5	548.5	526.2	507.1	486.7	469.0	435.8	395.0	391.0	369.0	365.2
12.5°	649.4	622.5	593.8	565.4	541.2	516.3	470.9	417.5	411.1	385.1	380.0
15°	730.7	701.7	668.4	634.1	604.3	571.3	514.1	447.0	435.2	404.6	397.7
17.5°	810.9	779.5	744.6	706.2	671.4	631.9	560.8	480.0	459.6	424.0	415.1
20°	888.4	856.5	819.7	782.2	738.7	693.6	608.6	512.5	481.4	440.1	428.5
22.5°	959.0	931.6	894.9	851.7	807.7	757.0	657.1	545.0	500.4	452.4	437.6
25°	1033.3	1008.4	971.9	930.3	879.0	822.7	707.3	575.8	515.7	459.1	440.9
27.5°	1108.5	1087.0	1052.7	1008.9	953.9	891.4	758.3	604.3	528.1	461.3	439.3
30°	1188.7	1172.1	1140.4	1091.6	1036.0	966.8	813.8	632.2	535.9	458.3	432.0
32.5°	1264.6	1264.1	1235.9	1185.2	1125.4	1049.2	872.3	660.4	539.9	450.0	419.4
35°	1343.5	1354.5	1333.3	1285.0	1222.0	1137.4	937.0	690.4	540.1	435.2	403.0
37.5°	1433.1	1452.7	1443.3	1397.5	1331.2	1238.1	1012.9	724.2	538.5	414.8	379.1
40°	1535.1	1561.9	1561.7	1523.0	1452.2	1350.8	1101.2	762.1	534.8	389.3	351.0
42.5°	1651.8	1683.8	1692.6	1654.5	1582.9	1473.9	1202.4	803.6	528.9	364.1	321.2
45°	1785.5	1813.6	1830.3	1794.9	1722.9	1608.1	1318.6	850.9	521.6	331.7	287.1
47.5°	1928.5	1961.2	1986.2	1955.8	1879.1	1761.0	1456.2	911.8	518.9	294.6	250.4
50°	2105.8	2139.7	2193.6	2179.9	2137.8	2042.8	1747.4	1055.6	520.0	259.5	219.5
52.5°	2545.9	2623.5	2691.6	2661.3	2561.2	2398.3	1984.0	1135.6	497.5	230.8	198.0
55°	2678.7	2766.7	2867.4	2854.8	2758.7	2594.5	2171.0	1202.4	475.7	209.8	184.1
57.5°	2911.1	3014.9	3155.5	3152.9	3035.1	2850.2	2411.7	1282.3	466.4	197.8	177.1
60°	3157.2	3289.4	3483.7	3514.0	3386.0	3193.6	2696.2	1380.6	467.7	191.1	173.1
62.5°	3336.9	3530.9	3813.5	3904.2	3753.4	3541.4	2991.3	1478.8	459.6	183.3	168.2
65°	3347.9	3627.3	4028.2	4169.3	4016.6	3744.3	3095.4	1459.4	411.3	172.8	160.5
67.5°	3079.6	3443.5	3930.5	4085.3	3929.1	3619.2	2913.0	1275.9	334.3	154.6	147.0
70°	2565.0	2987.3	3492.8	3665.4	3536.3	3222.6	2535.2	1019.1	249.8	130.4	126.9
72.5°	1982.1	2376.1	2835.2	2994.8	2896.1	2620.2	1999.6	742.7	178.4	105.7	103.0
75°	1417.0	1752.5	2085.7	2146.6	2049.2	1795.9	1297.4	463.9	125.0	86.7	82.9
77.5°	877.4	1095.6	1215.3	1136.9	1012.7	841.7	528.1	229.2	83.2	70.6	66.8
80°	389.3	457.0	426.6	380.2	300.3	246.9	161.3	101.7	53.7	54.5	52.3
82.5°	130.9	138.5	134.7	133.9	120.7	105.7	68.4	44.0	30.1	34.9	34.1
85°	63.9	66.8	67.1	69.5	60.4	47.0	18.5	17.4	12.9	18.8	19.6
87.5°	19.3	19.6	17.7	19.3	15.6	10.7	3.5	4.8	2.4	4.6	4.6
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: P195313

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-600

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5	365.5
2.5°	352.9	351.8	349.9	347.8	347.2	344.5	343.7	342.4	341.6	340.2	339.2
5°	349.6	347.8	345.6	343.2	343.2	339.4	337.8	336.2	336.2	333.8	332.7
7.5°	352.9	350.4	348.0	345.9	346.7	342.4	340.8	339.2	338.9	336.5	335.4
10°	362.0	359.6	356.6	354.5	353.7	350.2	348.3	345.9	344.3	342.7	341.0
12.5°	375.9	372.7	369.0	364.4	362.5	359.6	356.6	353.4	349.6	348.0	345.6
15°	392.6	387.2	382.1	376.5	371.4	368.4	364.4	359.3	354.2	352.0	348.8
17.5°	406.2	400.6	393.4	386.7	377.5	375.1	369.5	363.3	355.0	354.2	349.4
20°	417.8	409.2	400.3	392.3	378.3	377.0	370.0	362.8	351.0	351.0	345.1
22.5°	424.2	412.4	402.0	391.2	373.8	372.7	364.7	356.1	341.6	342.1	334.9
25°	425.3	411.1	397.9	385.1	364.9	363.0	352.9	343.5	327.6	326.6	319.0
27.5°	421.0	404.4	389.1	373.5	351.8	347.8	336.5	325.2	309.7	307.0	298.9
30°	411.1	391.5	374.3	356.3	333.5	327.1	315.3	303.7	287.9	284.4	276.9
32.5°	395.2	373.0	353.9	335.9	310.7	302.7	290.9	279.3	264.0	261.4	254.4
35°	374.3	349.4	329.2	310.2	285.0	276.6	265.4	255.2	241.2	240.2	235.3
37.5°	348.0	322.0	300.5	282.3	258.4	254.1	242.6	235.1	223.5	224.6	222.2
40°	318.2	291.7	271.3	255.2	234.5	230.8	223.8	218.2	208.2	211.2	211.4
42.5°	288.2	261.6	243.1	228.6	210.9	208.5	203.7	200.4	192.9	198.8	201.2
45°	254.1	229.4	213.6	202.6	189.4	189.4	187.0	186.8	181.7	190.0	192.4
47.5°	221.1	201.8	190.8	184.1	175.0	179.2	178.4	180.6	176.8	185.4	187.6
50°	196.1	182.7	176.0	172.8	166.4	173.1	174.7	177.6	174.4	181.9	183.5
52.5°	180.3	171.5	167.7	166.9	162.3	170.7	173.3	176.0	172.3	179.2	179.0
55°	171.5	165.6	164.2	165.8	162.3	170.4	173.1	175.0	171.7	176.6	176.3
57.5°	168.2	165.0	165.8	168.2	165.8	172.5	173.9	176.0	172.8	175.0	176.0
60°	168.0	168.0	171.2	174.4	172.8	177.6	178.4	178.2	175.2	175.5	176.0
62.5°	166.4	170.4	175.8	180.9	180.3	186.2	186.8	183.3	180.9	178.2	177.4
65°	161.3	168.0	175.8	182.7	183.8	192.9	194.0	190.5	188.9	184.3	180.9
67.5°	150.0	158.6	167.7	176.3	178.2	190.5	192.9	194.3	195.1	192.1	187.6
70°	130.9	139.8	149.2	159.1	161.8	175.5	180.6	186.8	191.6	195.9	194.3
72.5°	106.5	114.6	122.6	131.7	135.8	150.0	156.7	167.4	175.0	186.0	190.5
75°	84.5	89.4	94.2	99.8	103.0	117.0	125.3	138.2	148.4	163.7	173.9
77.5°	66.5	69.0	71.4	73.8	75.1	82.9	89.6	102.5	114.3	133.6	148.7
80°	51.3	52.6	52.9	53.7	53.1	56.9	59.3	67.1	77.3	96.3	114.0
82.5°	33.0	34.1	34.6	36.0	33.3	38.1	39.7	40.5	45.9	59.8	72.4
85°	18.5	18.8	19.1	19.6	15.8	20.7	20.9	19.6	19.1	24.7	27.9
87.5°	4.6	4.3	4.6	4.6	1.9	4.3	4.3	3.0	2.1	4.0	3.2
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: P195313

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-600

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	365.5	365.5	365.5	365.5	365.5	365.5
2.5°	336.8	336.2	336.5	335.1	334.6	334.9
5°	331.4	330.3	330.3	329.5	328.4	328.4
7.5°	333.8	331.7	330.8	329.2	327.6	327.9
10°	337.6	333.8	331.1	328.7	326.8	326.8
12.5°	340.0	333.3	329.2	326.0	323.9	323.9
15°	340.5	330.3	324.4	320.9	318.8	318.8
17.5°	337.3	324.4	316.9	312.3	309.9	310.5
20°	329.2	313.4	304.6	299.7	297.3	297.6
22.5°	316.6	298.4	288.2	282.6	280.1	280.1
25°	299.5	279.6	268.6	264.0	261.9	261.9
27.5°	279.9	259.5	249.8	246.3	245.0	245.0
30°	257.9	241.0	234.0	231.6	229.4	229.4
32.5°	239.3	227.3	224.9	221.6	216.0	215.7
35°	224.6	223.2	221.4	211.7	203.7	202.6
37.5°	216.5	224.6	212.8	196.1	189.7	189.4
40°	212.2	219.8	199.4	191.3	190.5	190.5
42.5°	202.1	207.4	198.6	194.0	194.0	194.3
45°	191.3	195.9	200.4	196.4	197.8	198.0
47.5°	183.8	192.9	200.4	197.0	199.6	201.2
50°	176.8	190.2	196.4	196.4	199.4	199.6
52.5°	175.2	186.5	192.7	195.6	195.9	194.5
55°	175.5	183.5	189.7	193.5	191.9	191.9
57.5°	175.2	181.9	187.3	188.6	189.4	189.4
60°	175.5	179.8	184.1	183.5	186.2	186.2
62.5°	176.3	176.8	179.0	178.4	182.5	182.5
65°	178.2	173.1	171.7	172.3	177.1	176.8
67.5°	181.7	168.0	163.7	163.9	170.9	169.9
70°	186.8	161.0	154.6	152.9	164.8	162.9
72.5°	188.4	152.9	142.8	141.1	148.1	142.8
75°	180.9	146.5	130.1	124.8	121.8	120.2
77.5°	161.3	142.5	117.0	105.7	101.2	100.1
80°	133.6	134.2	99.8	86.4	100.4	100.1
82.5°	100.9	115.9	80.0	74.9	72.7	60.6
85°	48.8	87.2	61.4	51.5	30.9	29.2
87.5°	4.3	36.5	35.4	23.1	10.5	9.9
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)