

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: P195319

Luminaire Tested: **NAV-AF-01-D-UNV-T2R-7060-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195319
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-7060-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 5700K, 800mA LIGHTSQUARE WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5172 lumens
Efficiency: N/A
Efficacy: 117.5 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): 44
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

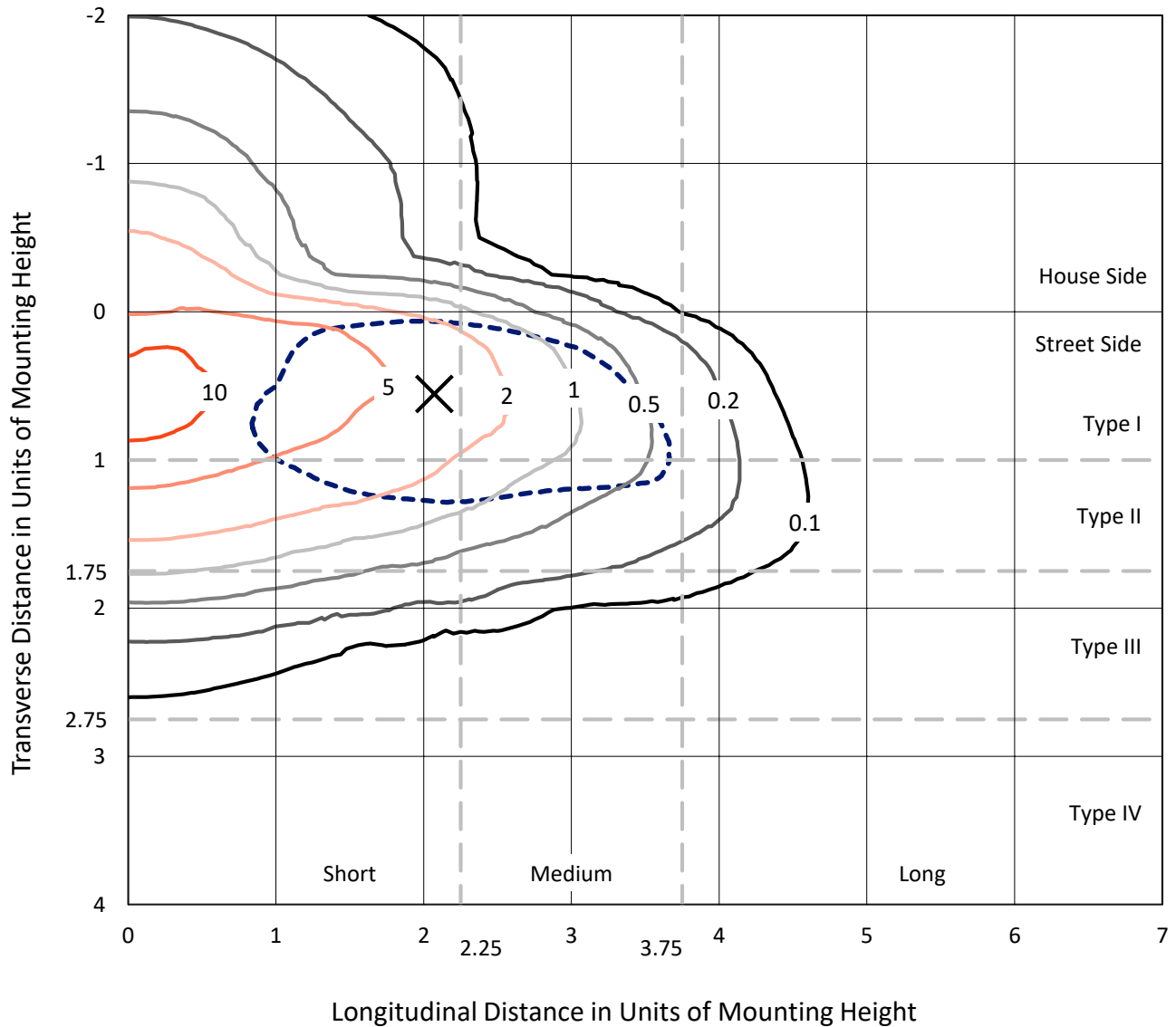


REPORT NUMBER: P195319

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-800

Iso-Footcandle Lines of Horizontal Illumination

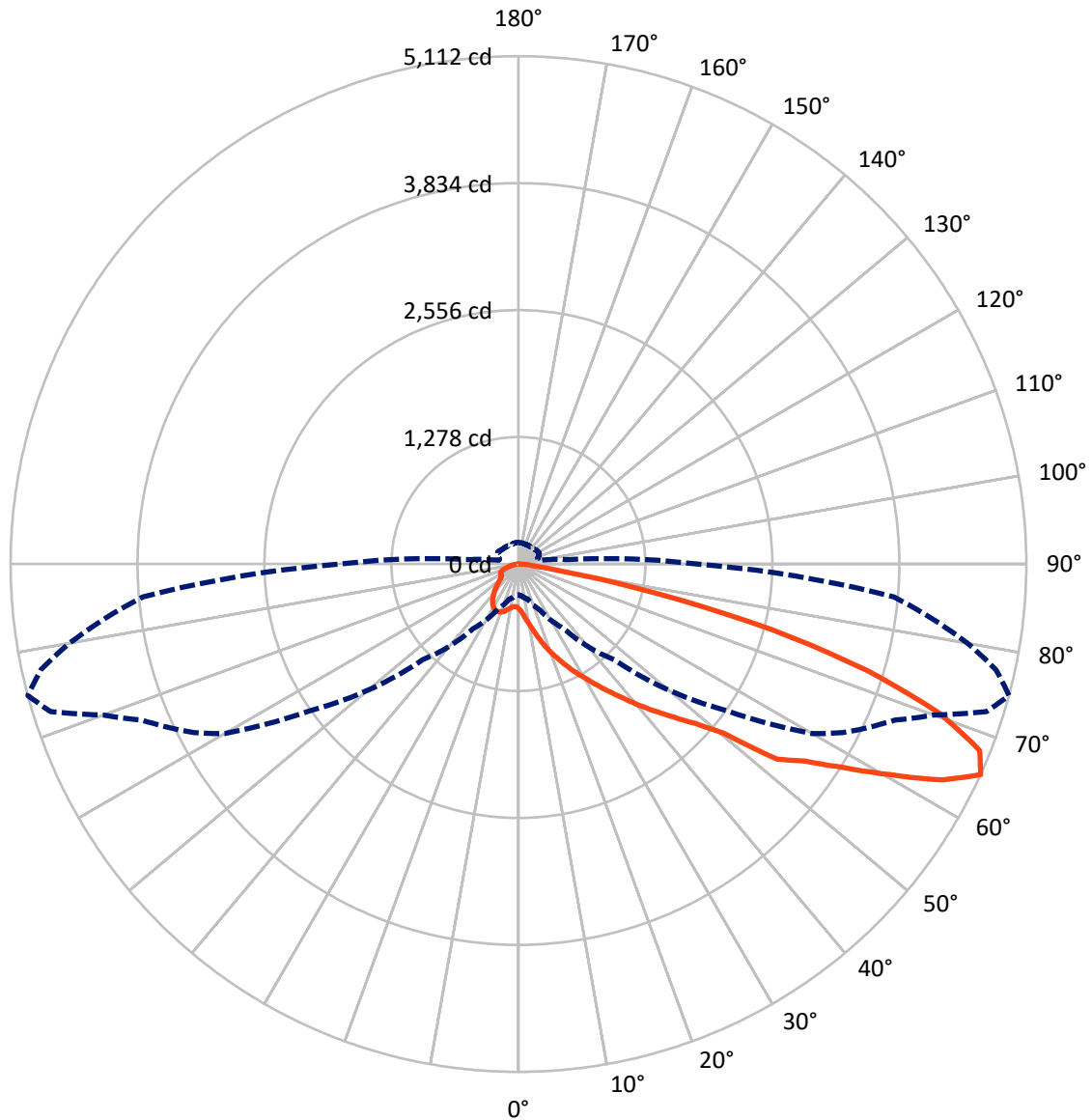
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.9 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P195319
CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P195319

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-800

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	777.2	0.0	777.2
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	4394.8	0.0	4394.8
	% Fixture	85.0	0.0	85.0
Total	Lumens	5172.0	0.0	5172.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.9	1.0
10°-20°	202.1	3.9
20°-30°	407.8	7.9
30°-40°	692.5	13.4
40°-50°	965.9	18.7
50°-60°	1183.9	22.9
60°-70°	1113.9	21.5
70°-80°	488.4	9.4
80°-90°	64.6	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°	5172.0	100.0
0°-180°	5172.0	100.0



REPORT NUMBER: P195319

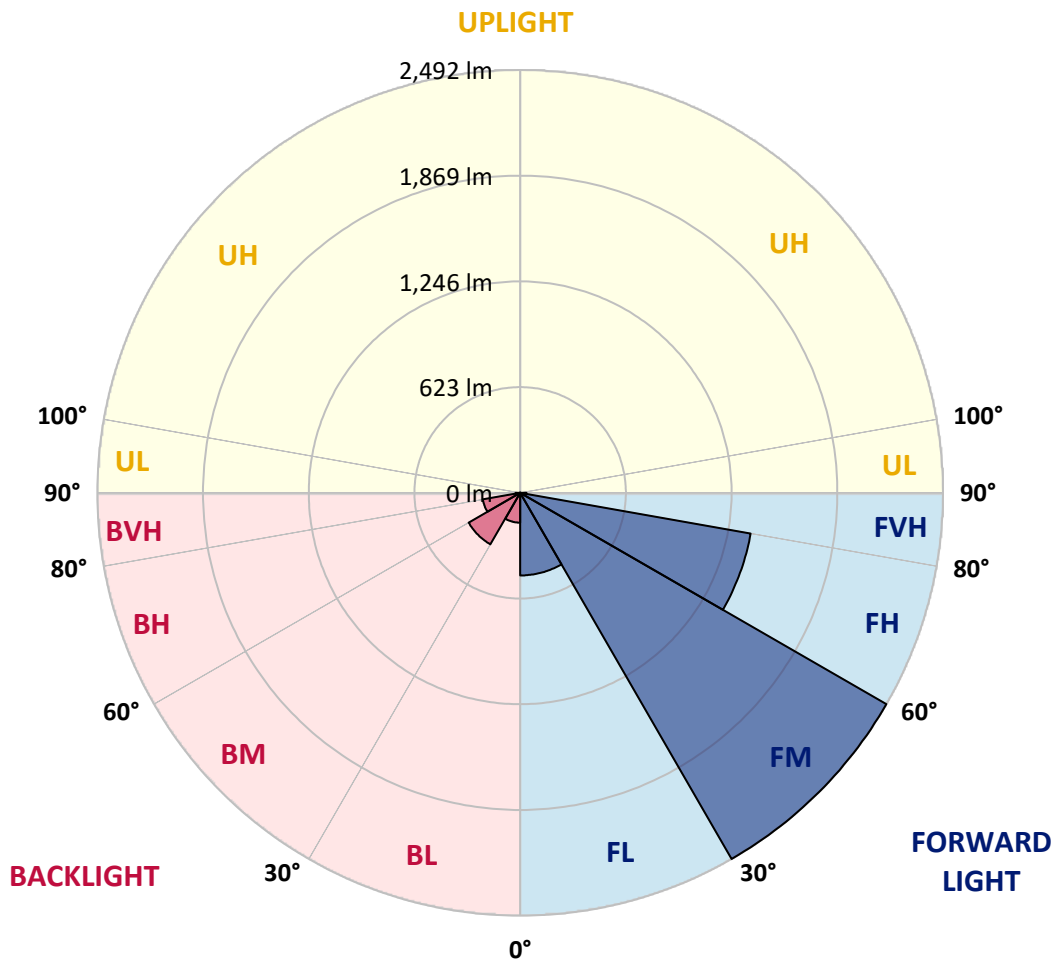
CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	486.8	9.4			
FM (30°-60°)	2491.6	48.2			
FH (60°-80°)	1378.9	26.7			G1/1800
FVH (80°-90°)	37.5	0.7			G1/100
BL (0°-30°)	175.9	3.4	B1/500		
BM (30°-60°)	350.7	6.8	B1/1000		
BH (60°-80°)	223.4	4.3	B1/500		G1/500
BVH (80°-90°)	27.2	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: P195319

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1
2.5°	564.3	557.7	558.3	549.1	535.6	520.8	508.7	502.1	496.5	494.8	485.6
5°	738.0	729.8	726.8	705.7	674.2	636.6	599.5	585.0	573.1	565.9	548.1
7.5°	880.1	875.8	871.9	852.5	821.2	773.2	713.3	691.9	672.2	650.5	629.1
10°	976.9	975.2	973.6	960.1	934.1	892.3	827.8	804.4	779.8	752.1	724.2
12.5°	1049.9	1049.9	1051.2	1040.0	1024.2	992.0	933.4	911.7	886.7	857.7	825.8
15°	1098.9	1100.2	1107.1	1110.4	1102.2	1081.5	1030.2	1011.1	987.4	958.8	927.2
17.5°	1131.5	1134.1	1144.3	1155.2	1165.7	1158.5	1120.3	1102.5	1081.2	1054.8	1025.2
20°	1207.2	1203.9	1204.2	1200.9	1216.4	1222.0	1200.9	1186.1	1169.0	1145.0	1118.0
22.5°	1366.1	1359.8	1343.7	1302.6	1283.8	1281.9	1269.4	1261.5	1248.3	1233.2	1206.2
25°	1573.4	1566.1	1534.2	1466.4	1410.5	1358.8	1335.8	1330.9	1322.3	1312.1	1292.7
27.5°	1787.6	1779.7	1738.5	1653.0	1579.9	1475.6	1403.9	1397.3	1389.4	1385.2	1376.0
30°	1976.1	1967.5	1927.1	1840.2	1752.0	1627.7	1495.7	1472.7	1459.2	1460.5	1455.2
32.5°	2141.6	2134.0	2088.6	2000.1	1910.6	1789.9	1614.8	1579.0	1548.7	1537.5	1541.4
35°	2280.4	2273.5	2223.8	2134.7	2044.5	1944.2	1768.1	1714.2	1664.8	1633.9	1630.3
37.5°	2362.0	2358.1	2323.2	2247.5	2158.0	2084.3	1939.9	1880.0	1807.3	1762.2	1742.5
40°	2357.4	2361.7	2355.8	2321.5	2252.1	2198.5	2118.9	2059.7	1988.6	1921.5	1881.3
42.5°	2290.3	2296.2	2322.9	2340.6	2321.9	2289.3	2275.2	2231.1	2167.2	2096.2	2040.6
45°	2198.2	2203.4	2238.0	2302.1	2355.8	2365.0	2412.0	2390.0	2336.0	2275.5	2214.3
47.5°	2057.0	2067.2	2107.4	2209.4	2337.0	2425.8	2526.9	2537.1	2505.8	2455.8	2398.5
50°	1852.7	1866.2	1922.5	2067.5	2265.9	2488.4	2697.6	2736.4	2723.9	2673.3	2615.4
52.5°	1643.4	1656.9	1731.9	1886.3	2151.4	2514.0	2865.7	2965.1	3036.8	3089.1	3099.3
55°	1425.6	1440.8	1523.0	1700.7	1998.8	2481.5	2985.8	3098.7	3171.4	3226.0	3248.1
57.5°	1179.9	1197.0	1276.6	1456.2	1782.9	2350.5	3119.4	3279.3	3387.6	3471.8	3519.2
60°	897.9	919.3	1001.9	1182.8	1499.3	2099.8	3179.0	3415.5	3587.6	3714.0	3789.0
62.5°	569.2	590.9	676.8	864.7	1176.6	1757.3	3010.5	3355.7	3649.1	3836.0	3973.5
65°	310.6	320.1	367.8	509.3	793.3	1363.4	2583.4	2990.4	3413.2	3678.1	3889.3
67.5°	232.9	234.3	239.2	273.7	422.5	920.6	2019.8	2392.6	2862.1	3203.0	3455.3
70°	204.0	204.0	204.6	205.0	229.3	498.8	1368.4	1711.6	2141.9	2486.7	2800.3
72.5°	182.9	181.0	180.3	176.4	179.6	255.6	744.9	1053.2	1416.1	1803.0	2095.5
75°	157.9	157.6	157.6	153.7	155.6	180.0	323.1	505.4	786.7	1147.0	1434.8
77.5°	136.5	134.2	134.6	132.3	138.5	137.9	153.3	208.3	342.5	602.4	841.3
80°	112.5	110.9	111.9	110.5	120.4	102.0	103.3	127.3	170.1	264.2	372.4
82.5°	83.2	83.9	90.2	89.5	101.3	68.8	75.7	95.1	114.5	131.6	143.1
85°	48.7	49.7	64.8	68.1	74.4	36.2	46.4	56.6	63.8	70.7	73.7
87.5°	5.3	6.9	36.2	37.2	33.2	10.9	18.8	23.7	25.3	27.0	23.7
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: P195319

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-800

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1
2.5°	482.7	478.4	473.8	471.2	466.5	462.6	455.4	449.4	442.9	438.3	436.3
5°	539.3	529.1	518.2	510.3	500.4	491.9	475.4	455.7	449.4	436.3	433.0
7.5°	613.0	594.5	576.1	561.0	543.9	529.7	502.1	466.5	461.9	440.9	436.3
10°	699.5	672.5	645.2	621.8	596.8	575.1	534.3	484.3	479.4	452.4	447.8
12.5°	796.2	763.3	728.1	693.2	663.6	633.0	577.4	512.0	504.1	472.1	465.9
15°	895.9	860.4	819.6	777.5	740.9	700.5	630.4	548.1	533.7	496.2	487.6
17.5°	994.3	955.8	913.0	866.0	823.2	774.8	687.6	588.6	563.6	519.8	509.0
20°	1089.4	1050.2	1005.1	959.1	905.8	850.5	746.2	628.4	590.3	539.6	525.4
22.5°	1175.9	1142.3	1097.3	1044.3	990.3	928.2	805.8	668.2	613.6	554.7	536.6
25°	1267.0	1236.4	1191.7	1140.7	1077.9	1008.8	867.3	706.1	632.4	562.9	540.6
27.5°	1359.2	1332.9	1290.7	1237.1	1169.7	1093.0	929.8	740.9	647.5	565.6	538.6
30°	1457.5	1437.1	1398.3	1338.4	1270.3	1185.5	997.9	775.2	657.0	562.0	529.7
32.5°	1550.7	1550.0	1515.5	1453.3	1379.9	1286.5	1069.6	809.7	662.0	551.8	514.3
35°	1647.4	1660.9	1634.9	1575.7	1498.3	1394.7	1148.9	846.6	662.3	533.7	494.2
37.5°	1757.3	1781.3	1769.8	1713.5	1632.3	1518.1	1242.0	888.0	660.3	508.7	464.9
40°	1882.3	1915.2	1914.9	1867.5	1780.6	1656.3	1350.3	934.4	655.7	477.4	430.4
42.5°	2025.4	2064.6	2075.4	2028.7	1940.9	1807.3	1474.3	985.4	648.5	446.5	393.8
45°	2189.3	2223.8	2244.2	2200.8	2112.6	1971.8	1616.8	1043.3	639.6	406.7	352.0
47.5°	2364.7	2404.8	2435.4	2398.2	2304.1	2159.3	1785.6	1118.0	636.3	361.3	307.0
50°	2582.1	2623.6	2689.7	2672.9	2621.3	2504.8	2142.6	1294.4	637.6	318.2	269.1
52.5°	3121.7	3216.8	3300.4	3263.2	3140.5	2940.8	2432.8	1392.4	610.0	283.0	242.8
55°	3284.6	3392.5	3515.9	3500.4	3382.6	3181.3	2662.1	1474.3	583.3	257.3	225.7
57.5°	3569.5	3696.8	3869.2	3866.0	3721.5	3494.8	2957.2	1572.4	571.8	242.5	217.2
60°	3871.2	4033.4	4271.6	4308.8	4151.9	3916.0	3306.0	1692.8	573.5	234.3	212.2
62.5°	4091.7	4329.5	4676.0	4787.2	4602.3	4342.4	3667.9	1813.2	563.6	224.7	206.3
65°	4105.2	4447.7	4939.2	5112.3	4925.1	4591.1	3795.5	1789.5	504.4	211.9	196.8
67.5°	3776.1	4222.3	4819.5	5009.3	4817.8	4437.8	3571.8	1564.5	410.0	189.5	180.3
70°	3145.1	3663.0	4282.8	4494.4	4336.1	3951.5	3108.6	1249.6	306.3	159.9	155.6
72.5°	2430.5	2913.5	3476.4	3672.2	3551.1	3212.9	2451.8	910.7	218.8	129.6	126.3
75°	1737.5	2148.8	2557.5	2632.1	2512.7	2202.1	1590.8	568.9	153.3	106.3	101.7
77.5°	1075.9	1343.4	1490.1	1394.0	1241.7	1032.1	647.5	281.0	102.0	86.5	81.9
80°	477.4	560.3	523.1	466.2	368.2	302.7	197.7	124.7	65.8	66.8	64.2
82.5°	160.6	169.8	165.2	164.2	148.1	129.6	83.9	54.0	36.8	42.8	41.8
85°	78.3	81.9	82.3	85.2	74.0	57.6	22.7	21.4	15.8	23.0	24.0
87.5°	23.7	24.0	21.7	23.7	19.1	13.2	4.3	5.9	3.0	5.6	5.6
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: P195319

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-800

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1	448.1
2.5°	432.7	431.3	429.0	426.4	425.7	422.5	421.5	419.8	418.8	417.2	415.9
5°	428.7	426.4	423.8	420.8	420.8	416.2	414.2	412.3	412.3	409.3	408.0
7.5°	432.7	429.7	426.7	424.1	425.1	419.8	417.9	415.9	415.5	412.6	411.3
10°	443.8	440.9	437.3	434.6	433.6	429.4	427.1	424.1	422.1	420.2	418.2
12.5°	461.0	457.0	452.4	446.8	444.5	440.9	437.3	433.3	428.7	426.7	423.8
15°	481.4	474.8	468.5	461.6	455.4	451.7	446.8	440.6	434.3	431.7	427.7
17.5°	498.1	491.2	482.3	474.1	462.9	460.0	453.1	445.5	435.3	434.3	428.4
20°	512.3	501.8	490.9	481.0	463.9	462.3	453.7	444.8	430.4	430.4	423.1
22.5°	520.2	505.7	492.9	479.7	458.3	457.0	447.1	436.6	418.8	419.5	410.6
25°	521.5	504.1	487.9	472.1	447.5	445.2	432.7	421.1	401.7	400.4	391.2
27.5°	516.2	495.8	477.1	458.0	431.3	426.4	412.6	398.8	379.7	376.4	366.5
30°	504.1	480.0	459.0	436.9	409.0	401.1	386.6	372.4	353.0	348.8	339.5
32.5°	484.6	457.3	434.0	411.9	381.0	371.1	356.7	342.5	323.8	320.5	311.9
35°	459.0	428.4	403.7	380.3	349.4	339.2	325.4	312.9	295.8	294.5	288.5
37.5°	426.7	394.8	368.5	346.1	316.8	311.6	297.4	288.2	274.1	275.4	272.4
40°	390.2	357.6	332.6	312.9	287.6	283.0	274.4	267.5	255.3	258.9	259.3
42.5°	353.4	320.8	298.1	280.3	258.6	255.6	249.7	245.8	236.6	243.8	246.8
45°	311.6	281.3	261.9	248.4	232.3	232.3	229.3	229.0	222.7	232.9	235.9
47.5°	271.1	247.4	233.9	225.7	214.5	219.8	218.8	221.4	216.8	227.4	230.0
50°	240.5	224.1	215.8	211.9	204.0	212.2	214.2	217.8	213.9	223.1	225.0
52.5°	221.1	210.2	205.6	204.6	199.1	209.3	212.5	215.8	211.2	219.8	219.5
55°	210.2	203.0	201.4	203.3	199.1	208.9	212.2	214.5	210.6	216.5	216.2
57.5°	206.3	202.3	203.3	206.3	203.3	211.6	213.2	215.8	211.9	214.5	215.8
60°	206.0	206.0	209.9	213.9	211.9	217.8	218.8	218.5	214.8	215.2	215.8
62.5°	204.0	208.9	215.5	221.8	221.1	228.3	229.0	224.7	221.8	218.5	217.5
65°	197.7	206.0	215.5	224.1	225.4	236.6	237.9	233.6	231.6	226.0	221.8
67.5°	183.9	194.4	205.6	216.2	218.5	233.6	236.6	238.2	239.2	235.6	230.0
70°	160.6	171.4	182.9	195.1	198.4	215.2	221.4	229.0	234.9	240.2	238.2
72.5°	130.6	140.5	150.4	161.5	166.5	183.9	192.1	205.3	214.5	228.0	233.6
75°	103.6	109.6	115.5	122.4	126.3	143.5	153.7	169.4	181.9	200.7	213.2
77.5°	81.6	84.6	87.5	90.5	92.1	101.7	109.9	125.7	140.2	163.9	182.3
80°	62.8	64.5	64.8	65.8	65.1	69.8	72.7	82.3	94.8	118.1	139.8
82.5°	40.5	41.8	42.4	44.1	40.8	46.7	48.7	49.7	56.3	73.4	88.8
85°	22.7	23.0	23.4	24.0	19.4	25.3	25.7	24.0	23.4	30.3	34.2
87.5°	5.6	5.3	5.6	5.6	2.3	5.3	5.3	3.6	2.6	4.9	3.9
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: P195319

CATALOG NUMBER: NAV-AF-01-D-UNV-T2R-7060-800

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	448.1	448.1	448.1	448.1	448.1	448.1
2.5°	412.9	412.3	412.6	410.9	410.3	410.6
5°	406.3	405.0	405.0	404.0	402.7	402.7
7.5°	409.3	406.7	405.7	403.7	401.7	402.1
10°	413.9	409.3	406.0	403.0	400.7	400.7
12.5°	416.9	408.6	403.7	399.8	397.1	397.1
15°	417.5	405.0	397.8	393.5	390.9	390.9
17.5°	413.6	397.8	388.6	383.0	380.0	380.7
20°	403.7	384.3	373.4	367.5	364.6	364.9
22.5°	388.2	365.9	353.4	346.5	343.5	343.5
25°	367.2	342.8	329.3	323.8	321.1	321.1
27.5°	343.2	318.2	306.3	302.0	300.4	300.4
30°	316.2	295.5	286.9	283.9	281.3	281.3
32.5°	293.5	278.7	275.7	271.8	264.9	264.5
35°	275.4	273.7	271.4	259.6	249.7	248.4
37.5°	265.5	275.4	260.9	240.5	232.6	232.3
40°	260.3	269.5	244.5	234.6	233.6	233.6
42.5°	247.8	254.3	243.5	237.9	237.9	238.2
45°	234.6	240.2	245.8	240.8	242.5	242.8
47.5°	225.4	236.6	245.8	241.5	244.8	246.8
50°	216.8	233.3	240.8	240.8	244.5	244.8
52.5°	214.8	228.7	236.2	239.9	240.2	238.5
55°	215.2	225.0	232.6	237.2	235.2	235.2
57.5°	214.8	223.1	229.7	231.3	232.3	232.3
60°	215.2	220.4	225.7	225.0	228.3	228.3
62.5°	216.2	216.8	219.5	218.8	223.7	223.7
65°	218.5	212.2	210.6	211.2	217.2	216.8
67.5°	222.7	206.0	200.7	201.0	209.6	208.3
70°	229.0	197.4	189.5	187.5	202.0	199.7
72.5°	231.0	187.5	175.0	173.1	181.6	175.0
75°	221.8	179.6	159.6	153.0	149.4	147.4
77.5°	197.7	174.7	143.5	129.6	124.0	122.7
80°	163.9	164.5	122.4	105.9	123.1	122.7
82.5°	123.7	142.1	98.0	91.8	89.2	74.4
85°	59.9	106.9	75.3	63.2	37.8	35.9
87.5°	5.3	44.7	43.4	28.3	12.8	12.2
90°	0.0	0.0	0.0	0.0	0.0	0.0

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