

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: P196225

Luminaire Tested: **NAV-AF-01-D-UNV-SLR-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196225
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)
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-SLR-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 4000K, 615mA LIGHTSQUARE WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3636.6 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G1

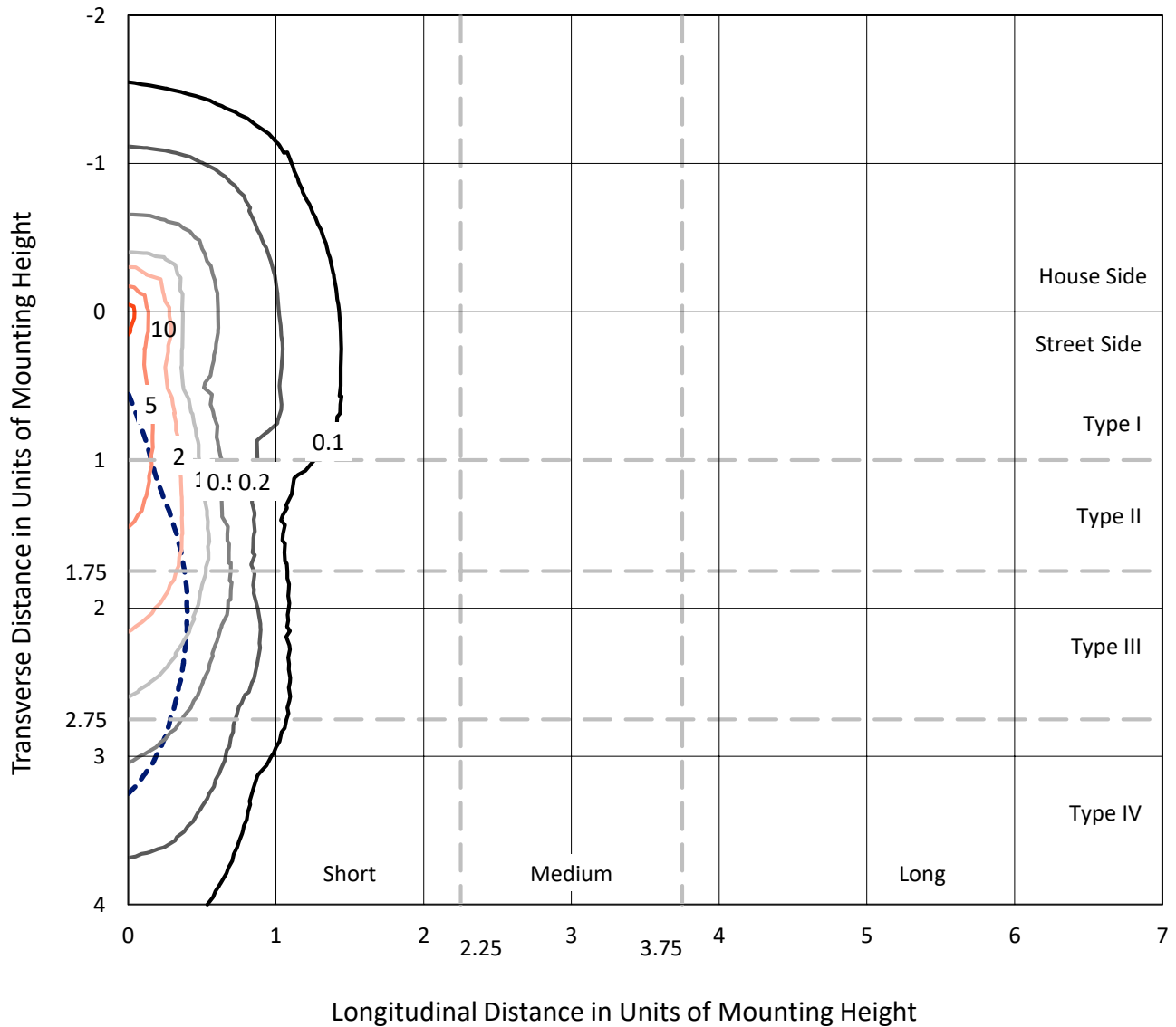
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196225
 CATALOG NUMBER: NAV-AF-01-D-UNV-SLR-600

Iso-Footcandle Lines of Horizontal Illumination

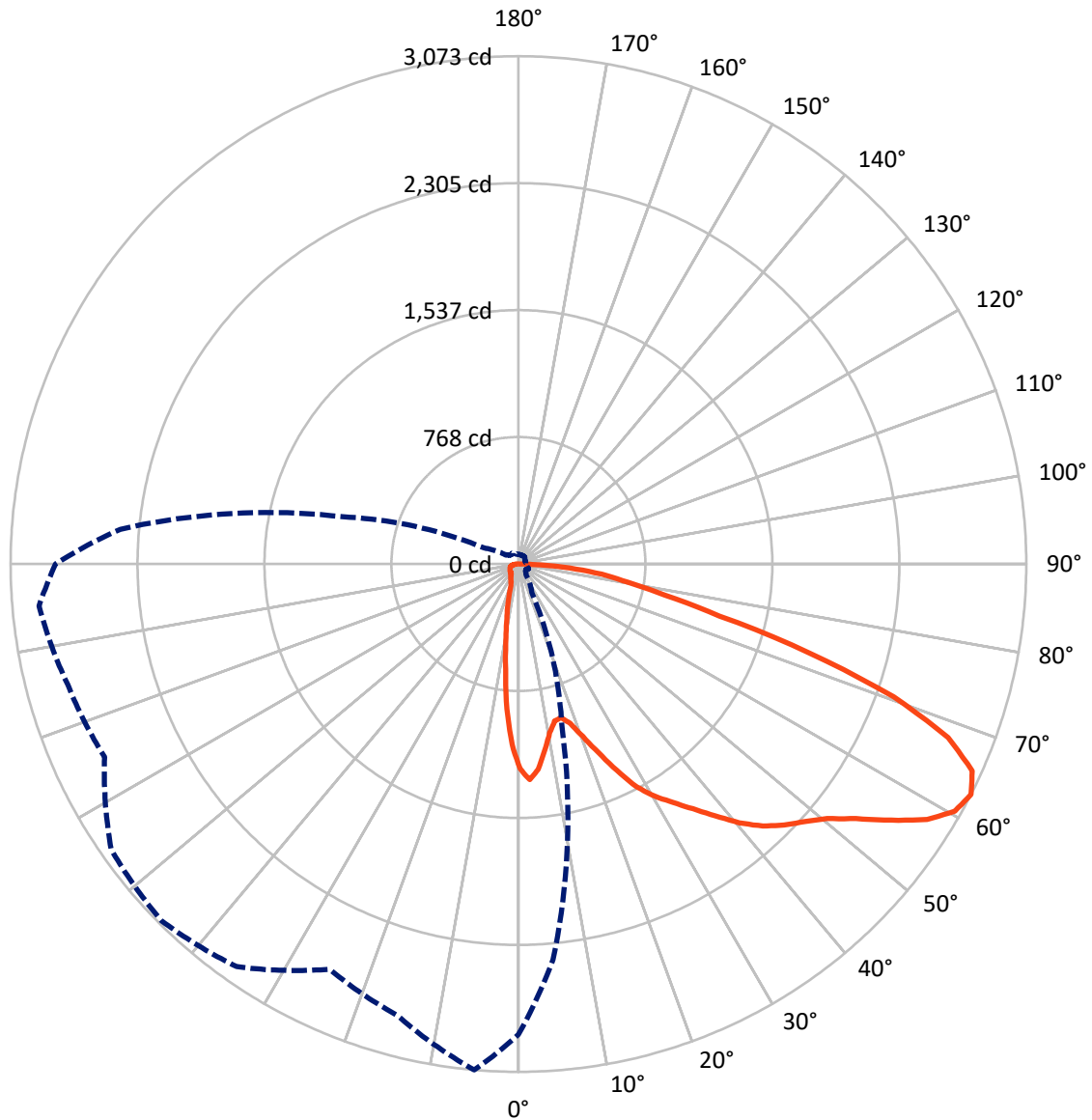
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.4 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196225
CATALOG NUMBER: NAV-AF-01-D-UNV-SLR-600

Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

REPORT NUMBER: P196225

CATALOG NUMBER: NAV-AF-01-D-UNV-SLR-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	644.2	0.0	644.2
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	2992.4	0.0	2992.4
	% Fixture	82.3	0.0	82.3
Total	Lumens	3636.6	0.0	3636.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.2	2.5
10°-20°	164.7	4.5
20°-30°	236.9	6.5
30°-40°	362.8	10.0
40°-50°	530.4	14.6
50°-60°	771.7	21.2
60°-70°	894.1	24.6
70°-80°	466.1	12.8
80°-90°	119.8	3.3
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°	3636.6	100.0
0°-180°	3636.6	100.0



REPORT NUMBER: P196225

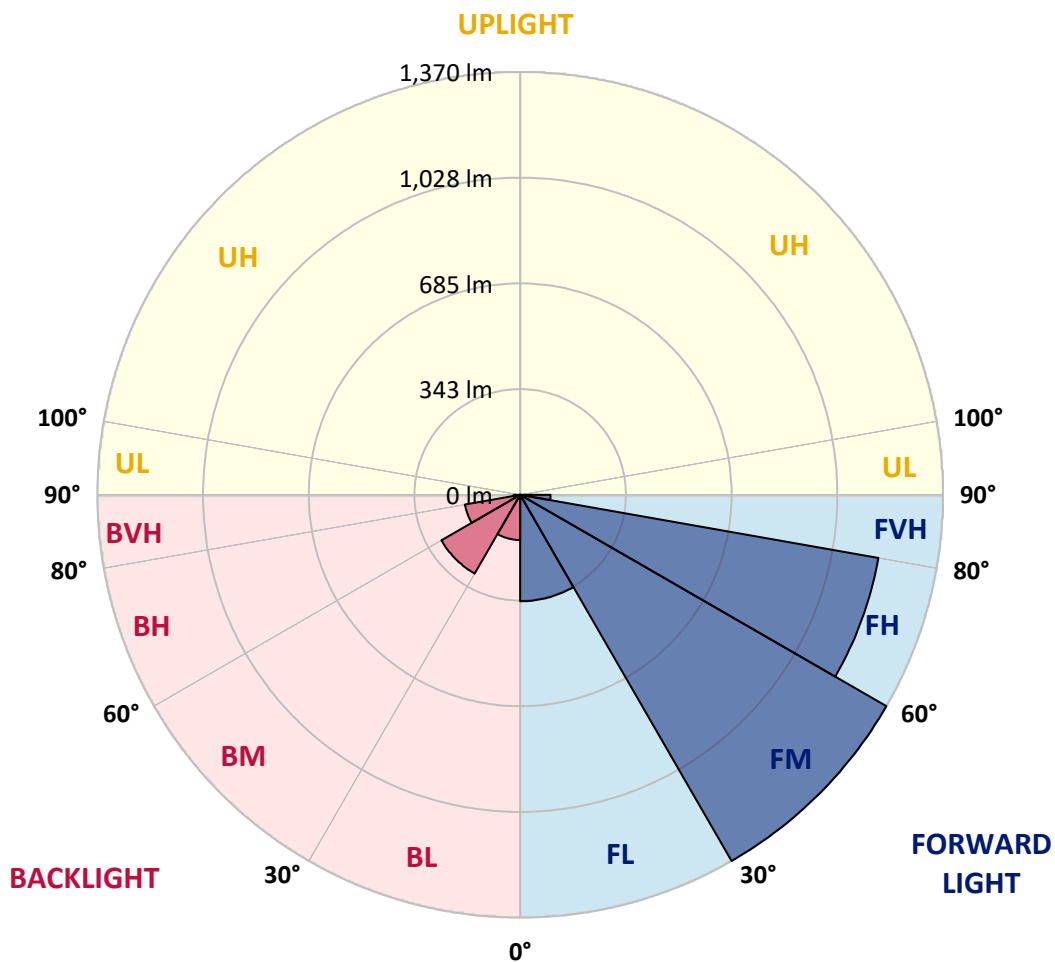
CATALOG NUMBER: NAV-AF-01-D-UNV-SLR-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	345.1	9.5			
FM	(30°-60°)	1370.1	37.7			
FH	(60°-80°)	1178.6	32.4			G1/1800
FVH	(80°-90°)	98.6	2.7			G1/100
BL	(0°-30°)	146.6	4.0	B1/500		
BM	(30°-60°)	294.8	8.1	B1/1000		
BH	(60°-80°)	181.7	5.0	B1/500		G1/500
BVH	(80°-90°)	21.2	0.6			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 IV Short





REPORT NUMBER: P196225

CATALOG NUMBER: NAV-AF-01-D-UNV-SLR-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8
2.5°	1279.8	1261.9	1220.6	1184.2	1138.7	1104.8	1063.4	1041.5	1025.4	1014.6	1005.9
5°	1195.5	1152.3	1073.2	1003.8	928.9	874.8	811.6	777.0	755.7	744.1	738.8
7.5°	1070.2	1013.0	910.7	817.6	724.0	656.5	608.6	557.4	530.2	512.6	506.8
10°	960.9	896.2	774.2	669.4	597.2	549.2	508.1	461.1	426.4	396.1	384.7
12.5°	897.2	822.1	682.9	588.3	527.6	476.2	432.7	382.1	345.5	313.7	301.7
15°	883.8	799.9	644.7	536.5	462.2	400.3	348.0	293.0	257.1	231.0	222.5
17.5°	924.4	821.1	628.6	489.4	399.8	324.1	259.7	200.7	170.8	156.6	153.2
20°	1008.0	867.5	620.9	446.9	339.1	249.4	179.5	136.4	121.5	117.3	117.0
22.5°	1118.0	942.9	629.4	412.1	282.1	184.0	131.6	112.0	106.0	103.6	103.6
25°	1242.2	1044.9	651.8	385.4	232.0	143.2	113.3	102.8	97.8	95.4	95.7
27.5°	1394.1	1169.1	682.4	361.0	196.2	125.5	106.0	97.1	92.1	89.6	89.9
30°	1508.4	1275.9	708.7	338.6	177.7	118.4	102.1	93.6	88.1	84.6	84.4
32.5°	1615.5	1370.0	730.1	322.4	167.2	105.8	92.3	85.9	81.2	77.2	76.4
35°	1733.9	1458.6	740.1	321.9	160.3	95.4	84.4	76.7	72.0	67.5	66.7
37.5°	1868.1	1567.0	748.6	325.1	156.6	88.9	80.7	73.3	69.4	64.9	63.8
40°	2007.8	1673.0	755.1	327.8	156.1	84.4	77.7	71.2	67.2	62.5	61.5
42.5°	2127.8	1766.8	764.1	326.7	152.4	83.6	75.9	69.4	65.7	60.9	59.6
45°	2223.8	1841.5	778.1	326.4	146.9	85.4	75.4	68.8	64.3	59.3	58.3
47.5°	2313.2	1925.6	807.6	325.4	140.8	84.9	78.4	68.3	63.8	58.8	58.0
50°	2415.5	2038.7	857.9	317.4	132.4	81.2	83.6	67.7	62.5	58.0	57.2
52.5°	2557.9	2204.3	932.6	303.2	120.8	77.2	84.4	67.5	60.4	56.5	55.3
55°	2725.3	2381.7	1013.0	282.6	105.5	70.4	80.2	66.5	58.3	54.0	52.5
57.5°	2854.7	2512.8	1069.2	253.1	90.4	66.5	71.5	64.0	55.6	51.5	50.1
60°	2891.2	2518.6	1079.2	217.8	82.8	63.8	61.5	69.9	53.5	49.0	47.8
62.5°	2847.7	2403.3	1013.8	193.0	80.2	61.2	55.9	66.7	51.5	47.0	45.6
65°	2718.7	2208.8	867.5	189.3	82.8	58.8	53.0	53.3	49.3	44.8	43.5
67.5°	2417.6	1922.4	683.4	191.7	85.9	56.5	50.8	48.5	47.0	43.0	41.4
70°	1966.2	1547.7	538.4	195.9	88.9	53.3	48.3	45.3	44.0	39.8	39.0
72.5°	1514.6	1238.7	424.7	193.0	91.8	50.1	44.6	42.1	40.6	36.6	35.9
75°	1075.5	984.3	312.2	165.6	84.1	45.6	40.3	38.3	36.9	32.7	32.4
77.5°	775.2	737.2	217.3	124.5	66.5	40.1	35.6	33.8	32.9	28.2	28.2
80°	618.3	561.1	130.0	81.2	48.5	33.2	29.8	29.1	28.2	23.4	23.7
82.5°	444.3	389.1	83.1	50.6	35.6	25.3	23.2	22.9	21.6	17.4	17.4
85°	227.8	198.8	53.3	34.1	25.1	16.4	15.2	14.7	14.0	10.8	10.8
87.5°	44.3	60.9	29.6	16.6	12.2	5.8	5.8	5.0	5.8	4.0	4.2
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: P196225

CATALOG NUMBER: NAV-AF-01-D-UNV-SLR-600

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8
2.5°	1022.5	1017.2	1013.5	1011.7	1038.3	1049.4	1062.0	1080.2	1092.6	1087.4	1104.3
5°	763.6	767.3	775.7	788.9	826.1	843.7	855.1	870.1	881.0	870.1	888.0
7.5°	522.1	527.6	545.5	572.6	617.6	637.3	641.3	641.5	639.1	621.4	633.6
10°	384.4	373.4	377.3	396.8	436.9	454.6	456.4	451.6	450.9	443.8	457.5
12.5°	298.0	282.6	273.7	276.8	306.9	321.4	323.8	326.4	337.3	340.6	357.5
15°	222.3	214.4	207.8	204.9	224.6	236.0	237.3	243.7	255.0	258.1	272.6
17.5°	156.3	158.5	161.9	163.3	177.5	184.8	182.7	182.7	184.5	183.8	191.9
20°	119.5	123.7	130.2	136.6	149.5	153.7	148.4	141.9	137.6	135.5	137.4
22.5°	105.5	108.3	112.6	120.8	131.6	133.7	126.8	121.5	117.6	115.5	115.8
25°	97.8	100.8	104.1	110.8	120.0	121.0	114.7	111.3	108.1	106.0	105.5
27.5°	91.2	93.1	95.2	99.4	108.9	109.5	105.2	103.1	101.0	99.4	98.9
30°	85.2	85.9	86.7	90.9	98.1	98.9	96.8	95.7	94.9	93.9	93.9
32.5°	77.2	78.4	79.6	83.4	90.2	91.2	89.9	89.1	87.8	87.3	86.4
35°	67.7	70.4	73.3	77.7	85.2	85.7	84.1	81.7	78.6	77.7	77.2
37.5°	63.8	64.3	68.0	73.3	80.9	81.4	79.4	75.4	73.0	73.3	73.9
40°	61.2	62.0	64.0	69.4	77.0	77.7	75.9	73.0	70.7	70.9	71.7
42.5°	59.0	60.1	61.5	64.9	72.5	74.1	73.6	70.9	68.5	69.0	70.2
45°	58.0	58.8	58.8	61.2	68.5	70.9	71.2	69.0	67.2	67.7	69.0
47.5°	57.5	57.5	56.7	58.5	65.9	68.3	68.8	67.7	66.7	67.2	68.5
50°	56.7	55.6	54.8	56.5	63.8	65.9	66.5	65.7	66.2	67.2	68.0
52.5°	54.3	53.3	53.3	54.3	61.7	63.8	64.0	63.5	64.7	65.9	67.2
55°	51.5	51.5	51.7	52.8	60.7	62.2	62.0	61.5	62.5	64.0	65.4
57.5°	48.8	48.5	49.8	51.1	59.3	60.4	59.8	59.8	60.7	62.0	63.3
60°	47.2	45.8	47.0	49.0	58.0	59.0	58.3	58.0	59.3	60.4	61.5
62.5°	45.6	44.3	45.1	47.2	56.2	57.0	56.5	56.5	57.7	58.5	59.6
65°	43.3	42.8	43.3	45.3	54.6	54.8	54.8	55.1	56.2	56.7	57.7
67.5°	41.1	41.1	41.4	43.5	53.3	52.8	52.8	54.0	54.3	54.8	55.9
70°	38.5	39.0	39.0	41.6	52.2	50.3	50.6	51.7	52.2	52.8	53.0
72.5°	35.6	35.9	36.4	39.8	50.6	48.0	48.3	49.0	49.3	50.1	50.3
75°	32.4	32.7	33.5	38.0	49.6	45.6	45.1	45.6	46.1	46.6	46.4
77.5°	28.7	29.3	30.1	36.9	46.1	45.1	41.1	41.6	42.1	42.1	41.9
80°	24.2	25.1	26.4	35.3	39.0	43.5	36.6	36.9	37.1	37.1	36.6
82.5°	18.2	19.7	21.6	29.3	30.6	37.1	31.6	32.1	31.4	30.9	30.6
85°	11.9	13.2	15.9	20.3	22.4	29.3	26.1	26.4	24.8	24.6	24.6
87.5°	4.7	5.0	7.2	10.3	13.4	18.2	18.7	19.2	17.9	17.9	18.4
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: P196225

CATALOG NUMBER: NAV-AF-01-D-UNV-SLR-600

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8
2.5°	1129.8	1156.2	1186.5	1217.4	1242.7	1275.4	1307.0	1340.8	1357.9	1367.9	1396.1
5°	916.0	952.2	995.1	1043.3	1083.4	1151.9	1225.8	1308.0	1347.6	1386.6	1460.5
7.5°	655.2	690.6	740.6	803.1	860.1	950.5	1047.8	1159.1	1213.9	1277.3	1398.3
10°	486.5	524.0	569.3	622.3	678.4	772.5	881.7	1006.7	1067.0	1138.5	1276.1
12.5°	394.4	438.2	485.2	532.7	580.8	644.2	758.6	897.5	962.4	1034.4	1172.3
15°	307.7	354.7	405.3	457.0	504.9	575.6	692.4	856.7	930.8	1000.3	1113.2
17.5°	217.8	262.1	319.1	381.8	451.4	535.0	678.1	874.6	964.5	1037.3	1113.0
20°	148.4	179.0	236.0	310.4	396.3	502.3	683.4	937.6	1050.0	1129.8	1158.6
22.5°	118.7	133.2	171.7	247.3	348.8	478.5	705.0	1024.1	1172.5	1269.9	1241.7
25°	107.8	116.0	136.1	195.4	306.7	462.8	747.3	1138.2	1309.9	1408.5	1341.6
27.5°	101.3	108.3	121.3	160.6	270.3	452.5	800.8	1272.8	1464.7	1545.7	1445.7
30°	97.1	104.1	116.0	144.2	242.8	437.2	847.7	1395.6	1588.3	1640.8	1501.9
32.5°	88.9	94.4	104.1	129.2	222.3	419.2	888.3	1505.6	1705.2	1722.5	1569.4
35°	80.4	86.2	96.0	117.0	210.1	405.3	909.7	1603.2	1821.0	1804.3	1636.3
37.5°	77.2	82.0	90.9	108.3	203.6	396.1	917.8	1699.1	1945.1	1894.7	1683.1
40°	75.2	79.4	87.3	102.6	201.7	387.3	916.0	1790.4	2065.6	1988.3	1719.7
42.5°	73.6	77.2	84.6	98.6	196.7	379.2	909.9	1869.1	2162.1	2069.0	1754.8
45°	72.2	76.2	83.6	100.8	187.5	370.2	906.2	1941.2	2236.2	2137.0	1801.6
47.5°	71.7	76.2	83.9	100.1	177.5	360.2	919.4	2021.0	2300.8	2194.2	1864.1
50°	70.9	75.9	89.6	95.4	163.8	347.8	964.0	2116.3	2368.5	2258.6	1945.1
52.5°	69.6	75.7	95.7	91.8	146.1	330.6	1036.2	2250.7	2485.7	2383.9	2064.8
55°	68.0	76.2	91.5	85.9	127.4	308.5	1108.5	2435.0	2675.5	2585.8	2236.7
57.5°	66.2	75.4	86.4	80.7	111.8	280.6	1163.3	2586.1	2832.1	2794.1	2447.9
60°	64.9	77.2	77.7	77.5	101.8	253.9	1168.6	2576.3	2877.2	2929.4	2654.7
62.5°	63.3	78.9	70.9	75.2	96.8	229.1	1103.5	2416.8	2800.9	2912.0	2823.1
65°	61.2	68.8	67.2	73.0	96.8	215.9	951.9	2151.3	2590.3	2747.4	2914.6
67.5°	59.0	62.5	64.7	70.2	98.9	203.6	765.0	1814.6	2258.1	2482.0	2811.8
70°	56.2	59.0	61.7	67.5	97.8	194.9	602.0	1454.4	1858.4	2114.6	2527.3
72.5°	53.5	55.6	58.3	63.5	97.8	190.9	483.5	1140.9	1418.8	1634.8	2093.6
75°	49.6	51.5	53.8	59.6	96.0	174.5	363.0	914.1	1038.1	1173.3	1651.9
77.5°	45.6	47.0	48.8	54.6	86.4	145.8	256.9	708.0	769.2	844.0	1287.8
80°	40.6	41.6	43.0	48.8	71.7	113.1	167.2	553.7	575.1	611.2	847.2
82.5°	34.8	36.4	36.6	41.9	57.7	82.0	99.4	379.4	379.2	432.2	597.7
85°	28.4	29.3	29.8	32.9	42.8	54.6	65.4	207.2	184.8	258.9	519.1
87.5°	21.4	20.6	21.4	22.2	28.2	32.1	35.1	38.3	22.9	47.0	301.9
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: P196225

CATALOG NUMBER: NAV-AF-01-D-UNV-SLR-600

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8	1239.8
2.5°	1411.2	1426.7	1417.5	1406.5	1378.7	1338.1	1307.0	1279.8
5°	1511.6	1540.4	1527.7	1486.6	1414.8	1333.4	1247.7	1195.5
7.5°	1498.9	1555.9	1550.9	1482.4	1379.6	1259.6	1139.1	1070.2
10°	1397.8	1477.7	1491.4	1421.2	1312.3	1178.1	1038.6	960.9
12.5°	1287.5	1354.8	1382.7	1356.0	1253.5	1117.2	975.1	897.2
15°	1195.2	1229.3	1256.9	1274.1	1210.6	1095.6	964.0	883.8
17.5°	1127.0	1120.3	1143.6	1184.7	1187.3	1124.3	1014.1	924.4
20°	1093.9	1042.3	1055.8	1113.5	1181.0	1197.4	1114.0	1008.0
22.5°	1092.1	1011.5	1014.1	1076.3	1199.2	1297.0	1238.7	1118.0
25°	1120.6	1008.0	1010.4	1072.4	1231.3	1397.5	1382.9	1242.2
27.5°	1169.1	1022.7	1021.2	1089.7	1274.3	1481.3	1528.5	1394.1
30°	1221.6	1044.1	1040.1	1117.7	1316.5	1533.0	1631.9	1508.4
32.5°	1287.0	1082.1	1068.4	1158.6	1358.2	1582.6	1720.2	1615.5
35°	1349.2	1137.7	1118.0	1217.1	1402.8	1637.6	1819.1	1733.9
37.5°	1412.8	1220.8	1209.7	1301.5	1465.8	1697.5	1932.1	1868.1
40°	1494.2	1338.9	1333.6	1424.0	1549.9	1763.0	2059.0	2007.8
42.5°	1582.0	1464.5	1460.0	1564.9	1654.3	1828.5	2167.6	2127.8
45°	1671.4	1616.6	1617.6	1715.2	1764.2	1890.5	2253.0	2223.8
47.5°	1776.9	1782.9	1820.6	1871.0	1871.3	1959.6	2328.7	2313.2
50°	1910.9	1983.9	2053.5	2061.3	1979.4	2050.8	2421.3	2415.5
52.5°	2062.5	2215.6	2296.6	2271.6	2084.9	2164.0	2558.2	2557.9
55°	2242.5	2457.9	2534.2	2491.4	2211.1	2311.4	2736.9	2725.3
57.5°	2429.2	2691.1	2752.5	2696.8	2369.1	2483.0	2916.2	2854.7
60°	2630.9	2891.7	2954.2	2870.6	2546.3	2654.1	3034.9	2891.2
62.5°	2763.0	3009.0	3053.8	2973.7	2705.0	2828.5	3073.1	2847.7
65°	2769.8	2931.0	2942.8	2914.4	2772.5	2979.8	3017.7	2718.7
67.5°	2581.6	2591.1	2606.7	2637.3	2628.3	2912.2	2804.1	2417.6
70°	2179.0	2052.4	2103.6	2133.1	2199.5	2590.3	2409.5	1966.2
72.5°	1666.2	1481.3	1539.3	1529.3	1667.5	2124.7	1843.4	1514.6
75°	1199.2	1010.2	1014.6	1015.2	1198.1	1696.0	1256.9	1075.5
77.5°	815.0	714.8	729.6	720.4	801.8	1328.6	904.9	775.2
80°	557.4	554.7	557.9	536.3	534.7	858.8	670.0	618.3
82.5°	413.5	382.1	377.6	354.7	409.8	656.5	508.6	444.3
85°	326.1	211.4	183.8	221.8	354.9	604.1	310.1	227.8
87.5°	138.2	83.1	50.3	99.6	197.2	442.7	85.9	44.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)