

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: P196695

Luminaire Tested: **NAV-AF-03-D-UNV-SLL-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196695
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-03-D-UNV-SLL-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15473.3 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G3

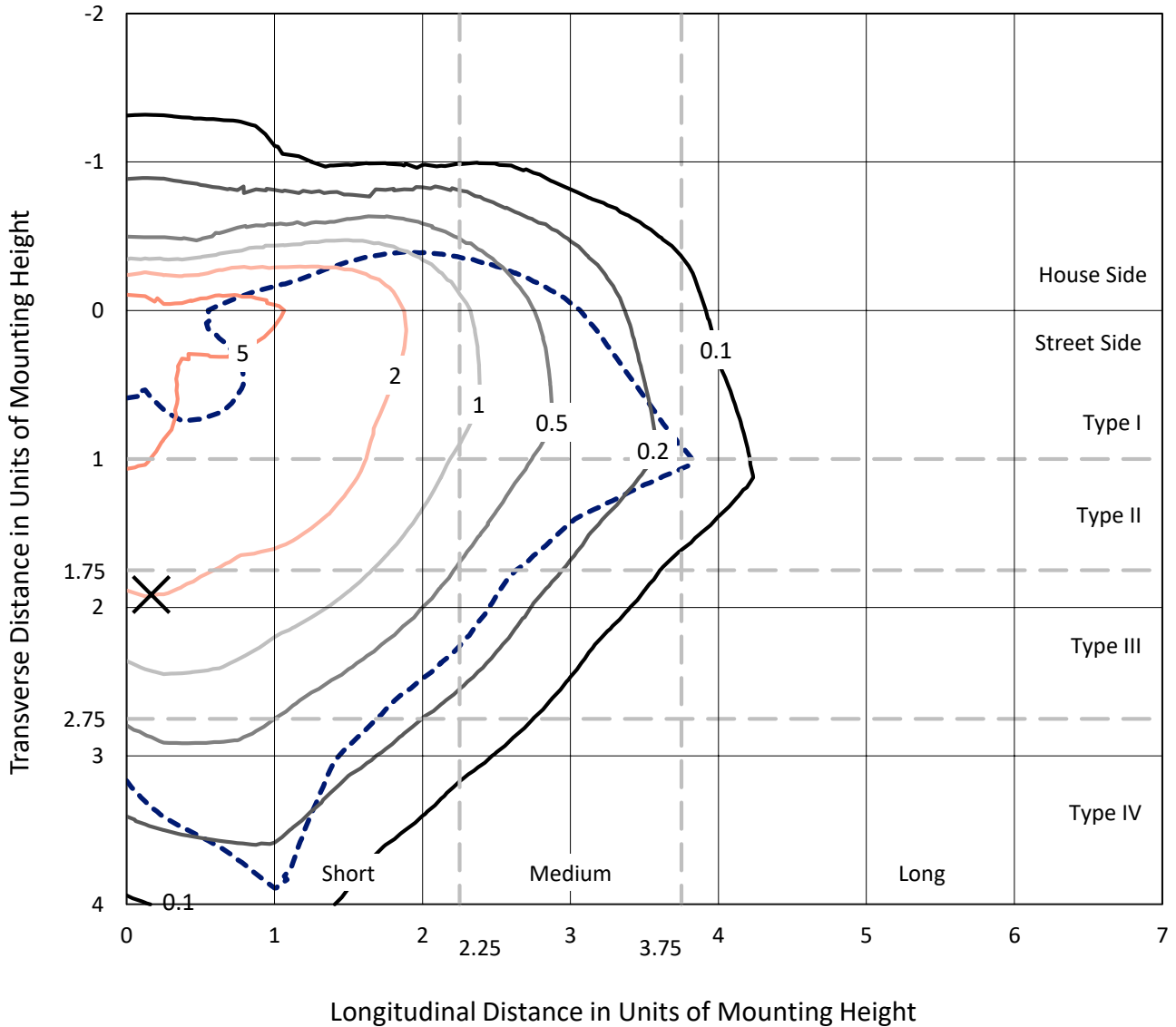
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196695
 CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7030

Iso-Footcandle Lines of Horizontal Illumination

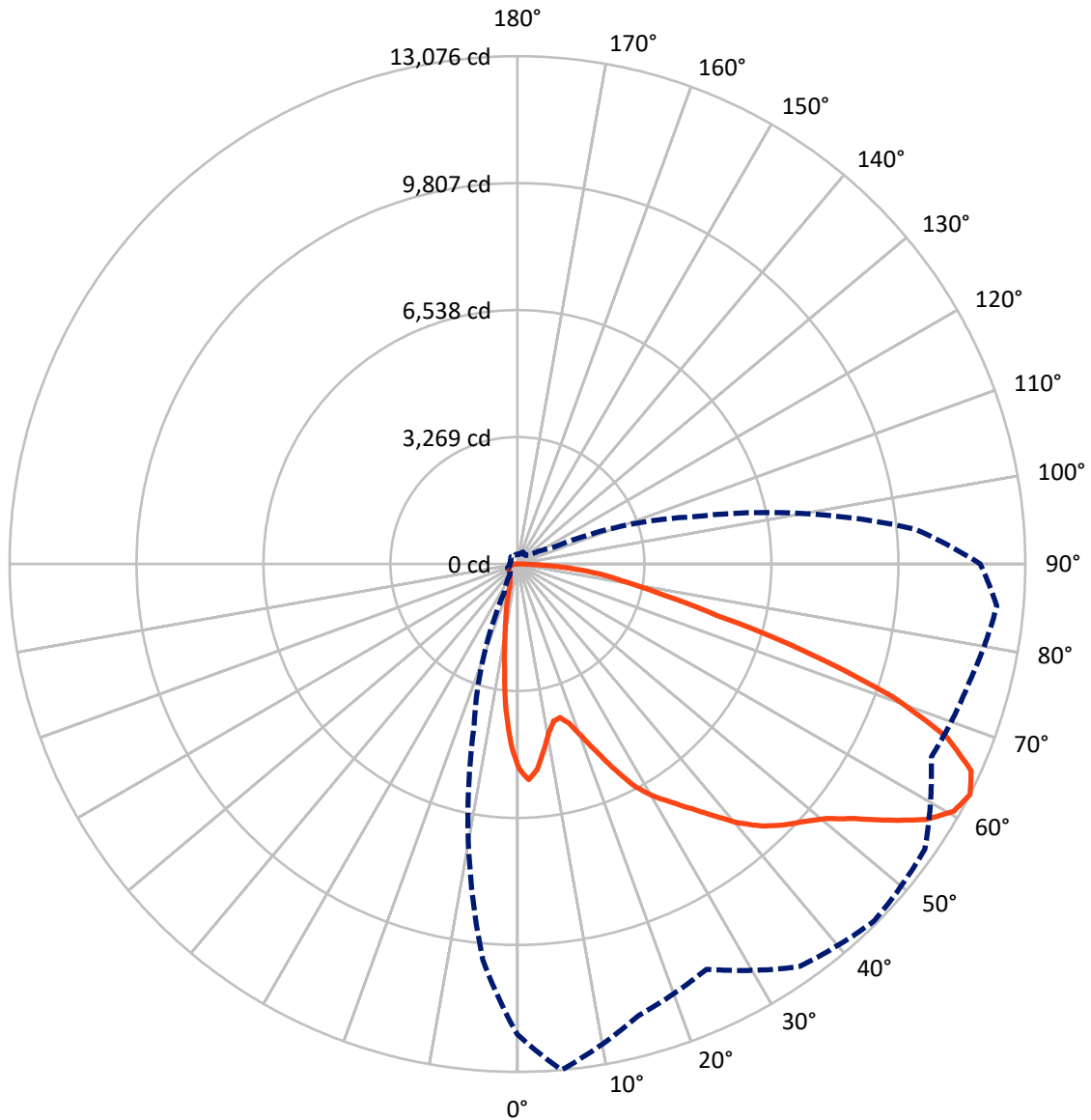
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.7 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196695
CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7030

Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

REPORT NUMBER: P196695

CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2741.1	0.0	2741.1
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	12732.2	0.0	12732.2
	% Fixture	82.3	0.0	82.3
Total	Lumens	15473.3	0.0	15473.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	383.6	2.5
10°-20°	700.7	4.5
20°-30°	1007.8	6.5
30°-40°	1543.5	10.0
40°-50°	2256.7	14.6
50°-60°	3283.5	21.2
60°-70°	3804.4	24.6
70°-80°	1983.2	12.8
80°-90°	509.8	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°	15473.3	100.0
0°-180°	15473.3	100.0



REPORT NUMBER: P196695

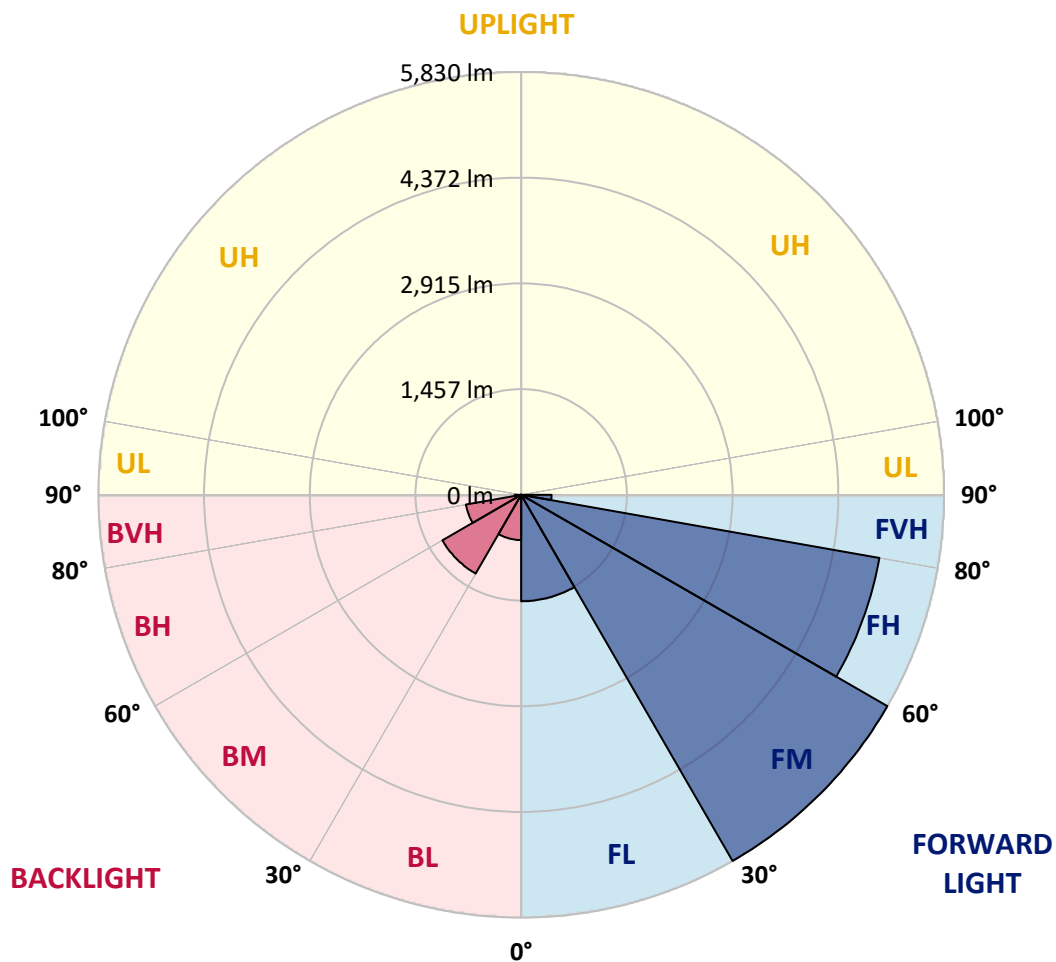
CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1468.5	9.5			
FM (30°-60°)	5829.6	37.7			
FH (60°-80°)	5014.7	32.4			G3/7500
FVH (80°-90°)	419.4	2.7			G3/500
BL (0°-30°)	623.6	4.0	B2/1000		
BM (30°-60°)	1254.2	8.1	B2/2500		
BH (60°-80°)	772.9	5.0	B2/1000		G2/1000
BVH (80°-90°)	90.4	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type IV Short





REPORT NUMBER: P196695
 CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1
2.5°	5445.7	5561.2	5693.6	5866.3	5984.2	6031.3	6070.6	6004.4	5940.4	5820.3	5777.7
5°	5086.7	5308.8	5673.4	6020.0	6325.2	6500.3	6554.1	6431.9	6214.2	5900.0	5734.0
7.5°	4553.8	4846.6	5359.2	5869.7	6307.3	6599.0	6620.3	6378.0	5949.3	5434.4	5165.2
10°	4088.2	4419.1	5012.6	5583.7	6047.1	6345.4	6287.1	5947.2	5429.9	4844.3	4540.3
12.5°	3817.8	4148.8	4753.5	5333.5	5769.9	5883.2	5764.3	5478.3	4987.9	4401.2	4094.9
15°	3760.6	4101.7	4661.4	5150.6	5421.0	5348.1	5230.2	5085.6	4736.6	4256.5	3960.3
17.5°	3933.4	4314.7	4783.8	5051.9	5040.6	4865.7	4767.0	4795.0	4735.6	4413.5	4103.9
20°	4289.0	4740.0	5094.5	5025.0	4737.8	4492.0	4434.9	4654.8	4929.6	4807.3	4467.4
22.5°	4756.8	5270.6	5518.5	5102.4	4579.6	4314.7	4303.6	4646.9	5283.0	5403.1	4989.1
25°	5285.2	5884.3	5946.0	5239.2	4562.7	4299.2	4289.0	4768.1	5708.2	5993.2	5573.6
27.5°	5931.4	6503.6	6302.8	5422.1	4636.8	4345.1	4351.8	4974.5	6151.4	6576.6	6232.1
30°	6418.3	6943.4	6522.7	5601.6	4755.7	4425.9	4442.7	5197.8	6390.3	6981.5	6758.3
32.5°	6873.8	7319.3	6733.6	5778.9	4929.6	4545.9	4604.3	5476.0	6677.5	7329.3	7255.3
35°	7377.6	7739.9	6968.1	5968.5	5178.7	4756.8	4840.9	5740.7	6962.4	7677.1	7747.8
37.5°	7948.6	8221.2	7222.8	6236.6	5537.7	5147.3	5194.4	6011.1	7161.1	8061.9	8276.3
40°	8543.2	8760.9	7500.9	6594.5	6059.4	5674.6	5697.0	6357.8	7317.0	8460.3	8789.0
42.5°	9053.7	9223.1	7780.4	7038.8	6658.5	6211.9	6231.0	6731.4	7466.2	8803.6	9199.5
45°	9462.1	9586.6	8044.0	7506.6	7298.0	6882.8	6878.3	7111.6	7665.9	9093.0	9514.9
47.5°	9842.4	9908.6	8337.9	7962.0	7960.9	7746.7	7586.3	7560.4	7931.7	9336.4	9789.6
50°	10277.7	10302.4	8726.1	8422.0	8771.0	8737.4	8441.2	8130.4	8276.3	9610.1	10078.0
52.5°	10883.6	10884.6	9207.4	8870.9	9665.2	9771.7	9427.3	8775.4	8785.5	10143.1	10576.1
55°	11595.9	11645.3	9834.5	9408.2	10600.8	10782.6	10458.3	9541.7	9517.0	11002.4	11383.8
57.5°	12146.8	12408.1	10565.0	10080.3	11474.7	11711.5	11450.1	10336.0	10415.6	11888.7	12050.3
60°	12301.6	12913.1	11293.0	10834.1	12214.1	12569.7	12303.8	11194.2	11295.2	12464.3	12242.2
62.5°	12116.6	13075.7	12034.6	11509.5	12652.8	12993.7	12803.1	11756.3	12012.2	12390.2	11917.9
65°	11567.9	12840.1	12678.6	11796.7	12400.3	12521.4	12471.0	11785.5	12401.5	11690.2	11021.5
67.5°	10286.6	11931.3	12391.3	11183.0	11221.3	11091.0	11025.0	10984.5	11963.9	10560.5	9607.9
70°	8366.0	10251.9	11021.5	9358.8	9076.1	8950.5	8732.9	9271.3	10753.4	8997.6	7907.1
72.5°	6444.2	7843.1	9040.2	7094.9	6507.1	6549.6	6302.8	7089.3	8907.9	6955.8	6036.9
75°	4576.3	5348.1	7216.0	5097.9	4319.3	4317.1	4297.9	5102.4	7028.6	4992.4	4417.0
77.5°	3298.4	3850.3	5653.2	3411.7	3065.0	3104.3	3041.4	3467.8	5479.4	3591.3	3272.6
80°	2630.9	2850.7	3654.0	2275.3	2282.0	2373.9	2360.4	2371.7	3604.7	2600.6	2446.9
82.5°	1890.4	2164.1	2793.5	1743.4	1509.0	1606.5	1625.7	1759.2	2543.3	1838.9	1613.3
85°	969.3	1319.3	2570.3	1510.1	943.6	782.0	899.7	1387.8	2209.0	1101.7	786.4
87.5°	188.5	365.7	1883.6	839.2	424.0	214.2	353.4	588.0	1284.6	199.7	97.6
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: P196695

CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1
2.5°	5704.9	5561.2	5426.6	5287.5	5179.8	5048.6	4919.5	4807.3	4698.4	4626.7	4649.1
5°	5565.7	5215.7	4901.6	4609.8	4439.3	4234.1	4051.2	3897.5	3778.5	3702.2	3748.2
7.5°	4931.9	4458.5	4044.4	3659.6	3417.3	3151.4	2938.2	2787.9	2695.9	2644.3	2719.5
10°	4283.4	3751.6	3287.2	2886.6	2647.7	2422.2	2229.2	2069.9	1946.5	1888.1	1918.5
12.5°	3818.9	3227.7	2740.8	2471.6	2266.2	2064.2	1864.6	1678.3	1521.3	1449.6	1434.9
15°	3645.0	2946.0	2449.0	2148.5	1944.3	1724.3	1509.0	1309.3	1160.0	1098.4	1084.8
17.5°	3721.4	2885.5	2276.3	1920.7	1624.4	1357.5	1115.2	926.7	816.7	782.0	785.3
20°	3989.5	2907.9	2137.2	1686.2	1320.5	1004.1	761.7	631.6	584.5	576.7	585.6
22.5°	4357.5	2999.9	2036.3	1484.3	1052.3	730.4	566.5	504.9	492.5	491.3	500.4
25°	4843.3	3179.5	1969.0	1304.8	831.4	578.8	493.7	458.9	448.7	451.0	460.0
27.5°	5415.4	3407.2	1925.1	1150.0	683.2	516.0	461.1	430.8	420.7	423.0	429.7
30°	5938.2	3606.8	1860.1	1033.3	613.7	493.7	443.1	412.9	399.4	399.4	403.9
32.5°	6406.0	3779.8	1783.7	945.7	549.7	443.1	401.6	378.0	367.9	371.4	373.5
35°	6821.2	3870.5	1724.3	894.2	498.1	408.4	366.9	342.2	328.8	330.9	334.4
37.5°	7229.4	3905.4	1685.1	866.1	461.1	387.1	348.9	328.8	314.1	311.9	310.8
40°	7617.7	3897.5	1648.0	858.2	436.4	371.4	337.7	319.7	305.2	301.8	300.7
42.5°	7953.1	3871.7	1613.3	836.9	419.5	360.1	328.8	313.0	298.4	293.9	291.7
45°	8259.4	3856.0	1575.2	797.7	428.6	355.6	324.3	307.3	293.9	288.3	286.0
47.5°	8599.4	3912.0	1532.5	755.0	426.3	356.7	324.3	305.2	291.7	286.0	283.8
50°	9004.4	4101.7	1479.8	696.7	406.1	381.5	323.1	301.8	289.4	286.0	281.6
52.5°	9576.5	4409.0	1406.8	621.5	390.4	407.2	322.0	296.2	286.0	280.5	274.9
55°	10360.7	4716.5	1312.6	541.9	365.7	389.3	324.3	289.4	278.3	272.6	265.9
57.5°	11003.6	4949.8	1193.6	475.8	343.3	367.9	320.9	281.6	269.3	263.7	258.1
60°	10962.1	4972.3	1080.3	433.1	329.9	330.9	328.8	276.0	261.3	256.9	252.4
62.5°	10283.3	4695.1	974.9	411.7	319.7	301.8	335.4	269.3	253.6	249.1	245.8
65°	9153.5	4050.0	918.9	411.7	310.8	286.0	292.9	260.2	245.8	241.3	239.0
67.5°	7721.0	3254.7	866.1	420.7	298.4	274.9	265.9	251.3	237.8	233.4	231.1
70°	6188.3	2561.2	829.1	416.3	287.3	262.6	251.3	239.0	225.5	224.4	222.2
72.5°	4854.5	2057.6	812.3	416.3	270.4	247.9	236.8	227.7	214.2	213.2	209.8
75°	3889.6	1544.8	742.8	408.4	253.6	228.9	218.7	210.9	197.4	198.6	196.3
77.5°	3012.3	1092.7	620.4	367.9	232.2	207.6	199.7	194.1	178.4	179.5	179.5
80°	2355.9	711.3	481.3	305.2	207.6	182.9	177.2	172.7	155.9	158.2	158.2
82.5°	1614.5	423.0	348.9	245.8	178.4	155.9	154.8	148.0	130.1	131.2	133.6
85°	881.8	278.3	232.2	181.7	140.3	126.7	124.5	121.2	104.4	104.4	105.4
87.5°	162.7	149.2	136.9	120.0	94.3	90.9	87.5	90.9	78.5	76.3	76.3
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: P196695
 CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1
2.5°	4596.4	4519.0	4465.1	4418.0	4304.7	4312.6	4328.3	4350.7	4280.0	4317.1	4363.0
5°	3702.2	3638.4	3590.0	3514.9	3356.7	3300.6	3264.6	3249.1	3143.5	3166.0	3215.4
7.5°	2729.7	2728.4	2711.6	2627.4	2436.8	2321.2	2245.0	2221.3	2156.2	2181.0	2256.1
10°	1921.8	1942.0	1934.1	1858.9	1688.5	1605.4	1588.6	1635.7	1636.8	1685.1	1814.1
12.5°	1388.9	1377.6	1367.6	1305.8	1178.1	1164.4	1202.7	1267.7	1283.5	1335.0	1469.6
15°	1036.7	1009.7	1004.1	955.9	871.7	884.0	912.1	945.7	946.8	982.8	1093.8
17.5°	777.5	777.5	786.4	755.0	694.5	688.9	674.2	665.3	651.8	666.4	727.0
20°	603.5	631.6	654.0	636.1	581.1	554.2	526.2	508.2	498.1	499.2	517.3
22.5°	517.3	539.6	568.8	559.9	513.8	479.1	461.1	448.7	440.9	440.9	451.0
25°	473.4	488.1	514.9	510.5	471.2	443.1	428.6	416.3	407.2	406.1	416.3
27.5°	438.6	447.6	465.6	463.4	423.0	405.1	396.1	388.2	382.5	381.5	391.5
30°	407.2	411.7	420.7	417.4	387.1	369.1	365.7	362.4	359.0	360.1	374.8
32.5°	379.2	382.5	388.2	383.7	354.5	338.8	333.2	328.8	325.4	328.8	345.6
35°	347.8	358.0	364.6	362.4	330.9	311.9	299.6	288.3	283.8	287.3	306.3
37.5°	320.9	337.7	346.7	344.3	311.9	289.4	273.7	271.5	271.5	276.0	295.1
40°	310.8	323.1	330.9	327.6	295.1	272.6	263.7	260.2	261.3	265.9	286.0
42.5°	301.8	313.0	315.2	308.5	276.0	261.3	255.7	251.3	253.6	259.2	279.3
45°	293.9	302.8	301.8	291.7	260.2	250.2	250.2	246.8	247.9	252.4	273.7
47.5°	288.3	292.9	290.5	280.5	249.1	241.3	244.5	244.5	246.8	250.2	271.5
50°	279.3	282.8	280.5	271.5	240.1	233.4	236.8	241.3	243.4	246.8	265.9
52.5°	270.4	272.6	271.5	262.6	231.1	226.6	226.6	231.1	235.6	240.1	256.9
55°	261.3	263.7	264.7	258.1	224.4	219.9	218.7	218.7	223.2	230.0	247.9
57.5°	254.7	254.7	256.9	252.4	217.7	212.1	206.4	207.6	213.2	218.7	236.8
60°	246.8	247.9	251.3	246.8	208.6	199.7	195.2	200.8	203.1	208.6	227.7
62.5°	240.1	240.1	242.3	239.0	200.8	191.9	188.5	194.1	194.1	199.7	218.7
65°	234.5	233.4	233.4	232.2	193.0	184.0	181.7	184.0	185.0	190.7	209.8
67.5°	230.0	224.4	224.4	226.6	185.0	176.1	175.1	175.1	176.1	182.9	199.7
70°	219.9	215.3	214.2	222.2	177.2	166.1	166.1	163.8	166.1	169.4	187.4
72.5°	208.6	205.3	204.2	215.3	169.4	154.8	152.5	151.5	152.5	155.9	172.7
75°	194.1	191.9	194.1	210.9	161.6	142.5	139.1	138.0	138.0	139.1	157.2
77.5°	177.2	175.1	191.9	196.3	157.2	128.0	124.5	122.3	120.0	120.0	140.3
80°	157.2	155.9	185.0	166.1	150.3	112.2	106.5	103.2	100.9	99.9	120.0
82.5°	136.9	134.6	158.2	130.1	124.5	92.0	84.1	77.5	74.1	74.1	92.0
85°	112.2	111.1	124.5	95.4	86.5	67.3	56.0	50.5	46.0	46.0	59.4
87.5°	82.0	79.6	77.5	57.3	43.7	30.3	21.3	20.2	17.9	16.8	24.7
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: P196695

CATALOG NUMBER: NAV-AF-03-D-UNV-SLL-7030

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1	5275.1
2.5°	4431.4	4524.7	4700.8	4845.4	5038.4	5193.3	5369.4	5445.7
5°	3306.1	3453.2	3722.5	3952.5	4271.1	4566.2	4902.7	5086.7
7.5°	2371.7	2589.3	2793.5	3080.7	3479.1	3875.0	4310.3	4553.8
10°	1962.2	2161.9	2336.9	2541.1	2848.5	3293.8	3813.3	4088.2
12.5°	1625.7	1841.0	2026.1	2245.0	2502.9	2905.8	3498.1	3817.8
15°	1246.4	1480.9	1703.1	1966.6	2283.1	2743.1	3403.9	3760.6
17.5°	853.8	1105.0	1378.9	1700.8	2082.3	2674.5	3493.6	3933.4
20°	580.0	764.0	1061.4	1442.8	1901.6	2642.1	3691.0	4289.0
22.5°	476.8	559.9	783.1	1200.4	1753.5	2678.0	4011.9	4756.8
25°	437.6	482.4	609.2	987.2	1640.2	2773.3	4446.1	5285.2
27.5°	412.9	451.0	534.1	834.7	1535.8	2903.4	4974.5	5931.4
30°	398.2	434.2	503.6	756.2	1440.5	3015.7	5428.9	6418.3
32.5°	365.7	392.7	449.9	711.3	1372.1	3106.6	5829.4	6873.8
35°	326.4	359.0	406.1	682.1	1369.8	3149.2	6206.4	7377.6
37.5°	311.9	343.3	378.0	666.4	1383.3	3185.0	6667.4	7948.6
40°	302.8	330.9	359.0	664.2	1394.4	3213.1	7118.5	8543.2
42.5°	295.1	323.1	355.6	648.5	1390.0	3251.2	7517.8	9053.7
45°	292.9	320.9	363.5	624.9	1388.9	3310.7	7835.3	9462.1
47.5°	290.5	333.2	361.2	599.1	1384.5	3436.3	8193.3	9842.4
50°	288.3	355.6	345.6	563.2	1350.8	3650.7	8674.5	10277.7
52.5°	287.3	359.0	328.8	513.8	1290.2	3968.2	9379.1	10883.6
55°	282.8	341.1	299.6	448.7	1202.7	4310.3	10134.2	11595.9
57.5°	272.6	304.1	282.8	384.8	1077.0	4549.3	10691.7	12146.8
60°	297.3	261.3	271.5	352.3	926.7	4591.9	10716.3	12301.6
62.5°	283.8	237.8	260.2	341.1	821.2	4313.7	10226.1	12116.6
65°	226.6	225.5	250.2	352.3	805.6	3691.0	9398.2	11567.9
67.5°	206.4	216.6	240.1	365.7	815.6	2907.9	8179.7	10286.6
70°	193.0	205.3	226.6	378.0	833.5	2290.9	6585.5	8366.0
72.5°	179.5	189.6	213.2	390.4	821.2	1807.3	5270.6	6444.2
75°	162.7	171.6	194.1	358.0	704.5	1328.4	4188.0	4576.3
77.5°	143.5	151.5	170.6	282.8	529.6	924.5	3136.9	3298.4
80°	123.5	126.7	141.4	206.4	345.6	553.1	2387.5	2630.9
82.5°	97.6	98.8	107.7	151.5	215.3	353.4	1656.0	1890.4
85°	62.9	65.1	69.6	106.5	144.8	226.6	845.8	969.3
87.5°	21.3	24.7	24.7	51.6	70.7	125.6	259.2	188.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)