

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: P196682

Luminaire Tested: **NAV-AF-02-D-UNV-SLL-7030-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196682
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-02-D-UNV-SLL-7030-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 70 CRI, 3000K, 615mA 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: 6854.9 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G2

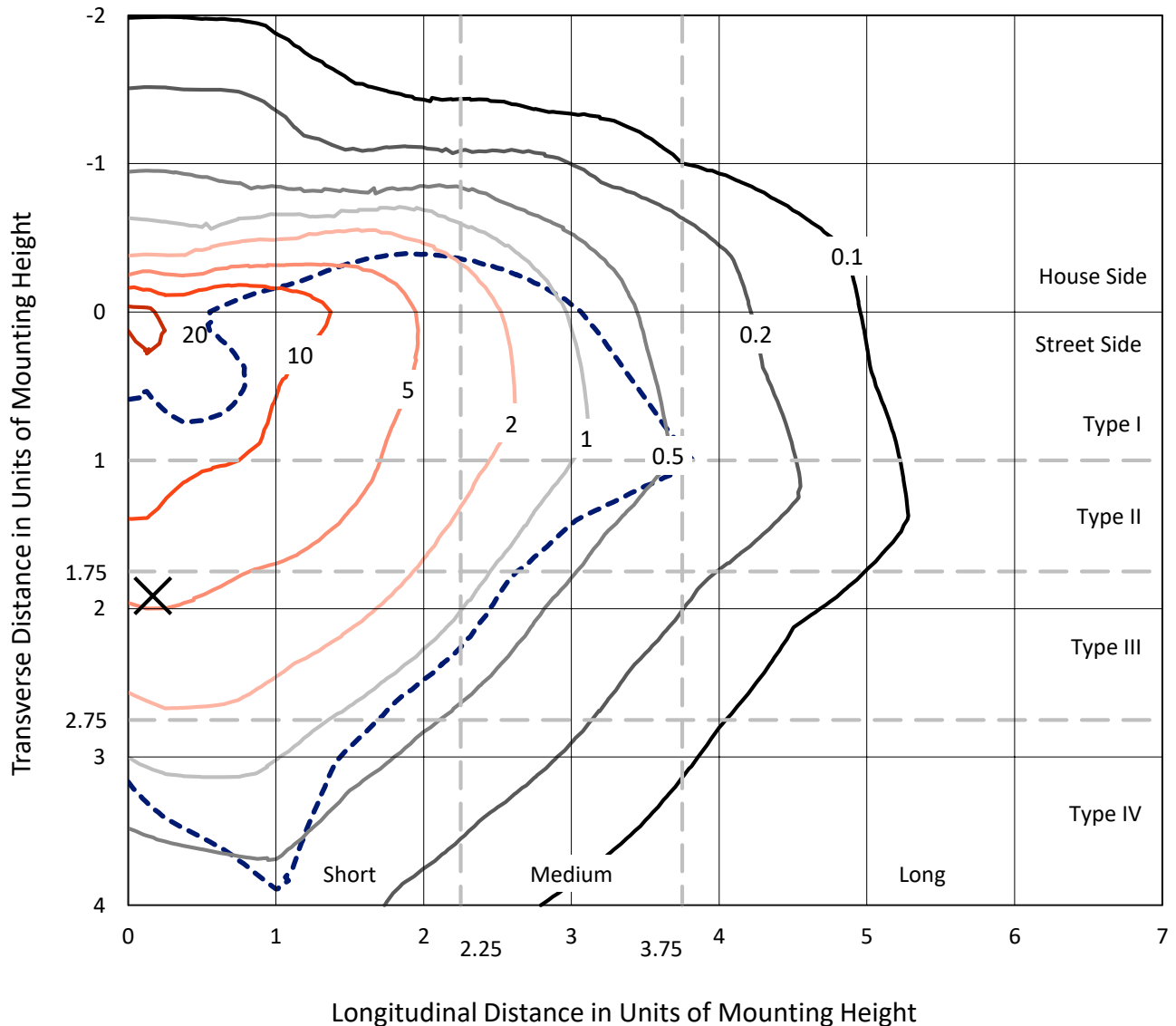
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196682
 CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-600

Iso-Footcandle Lines of Horizontal Illumination

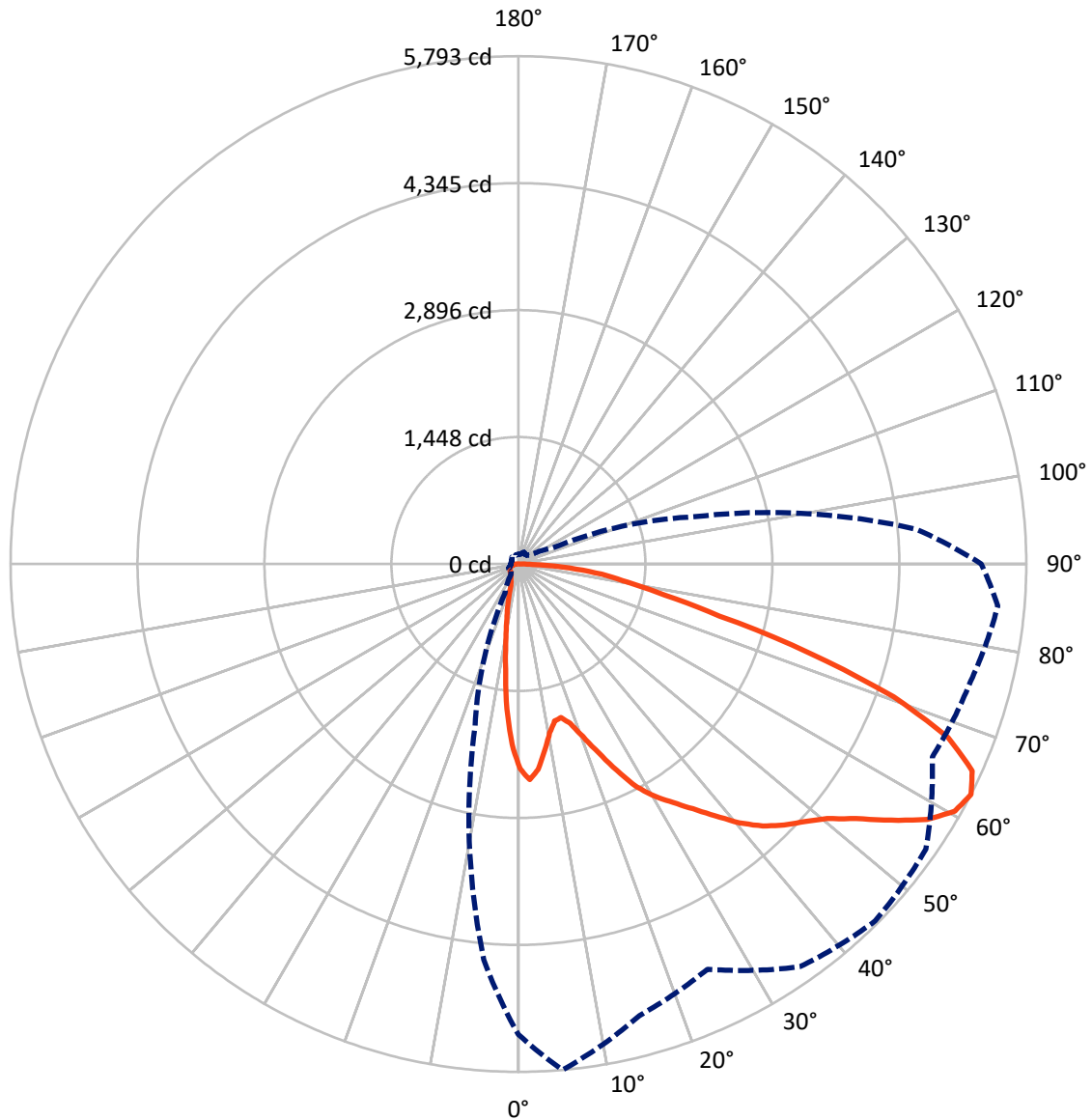
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 26.8 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196682
CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-600

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196682

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-600

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1214.4	0.0	1214.4
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	5640.6	0.0	5640.6
	% Fixture	82.3	0.0	82.3
Total	Lumens	6854.9	0.0	6854.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.0	2.5
10°-20°	310.4	4.5
20°-30°	446.5	6.5
30°-40°	683.8	10.0
40°-50°	999.8	14.6
50°-60°	1454.7	21.2
60°-70°	1685.4	24.6
70°-80°	878.6	12.8
80°-90°	225.8	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°	6854.9	100.0
0°-180°	6854.9	100.0



REPORT NUMBER: P196682

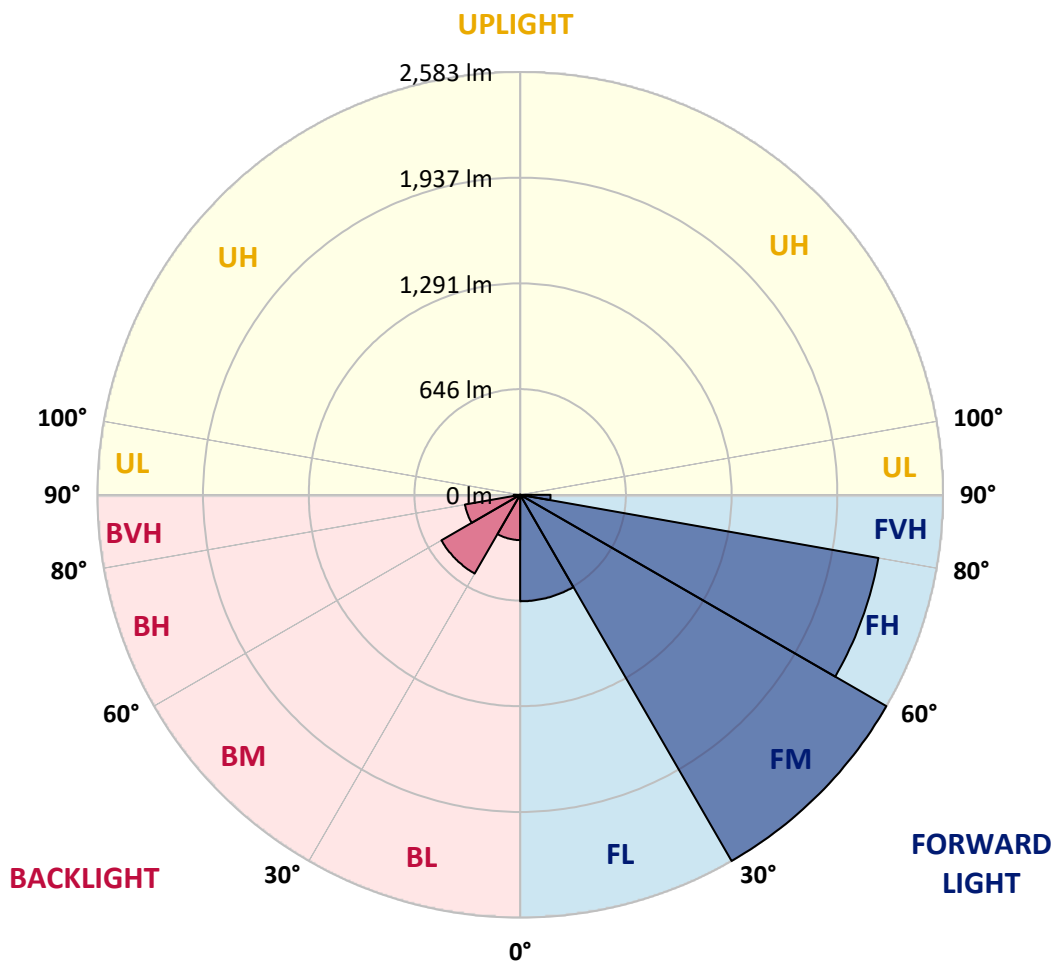
CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	650.6	9.5			
FM	(30°-60°)	2582.6	37.7			
FH	(60°-80°)	2221.6	32.4			G2/5000
FVH	(80°-90°)	185.8	2.7			G2/225
BL	(0°-30°)	276.3	4.0	B1/500		
BM	(30°-60°)	555.6	8.1	B1/1000		
BH	(60°-80°)	342.4	5.0	B1/500		G1/500
BVH	(80°-90°)	40.0	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-G2

Type IV Short





REPORT NUMBER: P196682

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-600

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9
2.5°	2412.6	2463.7	2522.4	2599.0	2651.0	2671.9	2689.4	2660.0	2631.7	2578.5	2559.6
5°	2253.5	2352.0	2513.4	2667.0	2802.2	2879.7	2903.6	2849.4	2753.0	2613.8	2540.3
7.5°	2017.4	2147.2	2374.2	2600.4	2794.2	2923.4	2932.9	2825.6	2635.7	2407.5	2288.3
10°	1811.1	1957.7	2220.7	2473.6	2678.9	2811.1	2785.2	2634.7	2405.6	2146.2	2011.5
12.5°	1691.4	1838.0	2105.9	2362.8	2556.1	2606.4	2553.7	2426.9	2209.8	1949.8	1814.1
15°	1665.9	1817.1	2065.1	2281.8	2401.6	2369.3	2317.1	2253.0	2098.5	1885.7	1754.4
17.5°	1742.5	1911.5	2119.3	2238.0	2233.2	2155.5	2111.9	2124.2	2097.9	1955.3	1818.1
20°	1900.1	2099.9	2257.0	2226.1	2098.9	1990.0	1964.7	2062.2	2183.9	2129.7	1979.1
22.5°	2107.4	2335.0	2444.7	2260.5	2028.8	1911.5	1906.6	2058.7	2340.5	2393.7	2210.2
25°	2341.4	2606.8	2634.2	2321.1	2021.4	1904.6	1900.1	2112.3	2528.8	2655.1	2469.2
27.5°	2627.6	2881.1	2792.2	2402.1	2054.2	1924.9	1928.0	2203.8	2725.2	2913.5	2761.0
30°	2843.5	3076.0	2889.7	2481.6	2106.8	1960.7	1968.2	2302.6	2831.0	3092.9	2994.0
32.5°	3045.3	3242.6	2983.1	2560.2	2183.9	2013.8	2039.8	2426.0	2958.3	3247.0	3214.2
35°	3268.4	3428.9	3087.0	2644.2	2294.2	2107.4	2144.6	2543.2	3084.5	3401.1	3432.4
37.5°	3521.4	3642.1	3199.7	2762.9	2453.3	2280.3	2301.2	2662.9	3172.5	3571.5	3666.5
40°	3784.8	3881.2	3323.0	2921.5	2684.4	2513.9	2523.9	2816.6	3241.5	3748.0	3893.7
42.5°	4010.9	4086.0	3446.8	3118.3	2949.8	2752.0	2760.4	2982.1	3307.6	3900.1	4075.6
45°	4191.8	4247.0	3563.6	3325.6	3233.1	3049.2	3047.2	3150.6	3396.1	4028.4	4215.2
47.5°	4360.3	4389.7	3693.8	3527.3	3526.9	3432.0	3360.9	3349.5	3513.9	4136.2	4336.9
50°	4553.2	4564.1	3865.8	3731.1	3885.7	3870.7	3739.6	3601.8	3666.5	4257.5	4464.8
52.5°	4821.6	4822.0	4078.9	3929.9	4281.8	4329.1	4176.4	3887.7	3892.2	4493.5	4685.4
55°	5137.2	5159.0	4356.8	4168.0	4696.3	4776.9	4633.2	4227.1	4216.2	4874.3	5043.3
57.5°	5381.2	5497.1	4680.4	4465.8	5083.5	5188.4	5072.6	4579.0	4614.3	5267.0	5338.5
60°	5449.9	5720.7	5003.0	4799.8	5411.1	5568.6	5450.8	4959.3	5004.0	5521.9	5423.4
62.5°	5367.8	5792.7	5331.6	5098.9	5605.3	5756.5	5671.9	5208.3	5321.6	5489.0	5279.9
65°	5124.8	5688.4	5616.8	5226.2	5493.5	5547.2	5524.8	5221.2	5494.0	5178.9	4882.7
67.5°	4557.2	5285.8	5489.6	4954.3	4971.2	4913.5	4884.2	4866.3	5300.1	4678.5	4256.4
70°	3706.3	4541.8	4882.7	4146.2	4020.8	3965.2	3868.8	4107.4	4763.9	3986.1	3503.0
72.5°	2854.8	3474.7	4005.0	3143.2	2882.7	2901.6	2792.2	3140.6	3946.3	3081.5	2674.4
75°	2027.3	2369.3	3196.8	2258.5	1913.5	1912.5	1904.1	2260.5	3113.8	2211.7	1956.8
77.5°	1461.3	1705.7	2504.4	1511.4	1357.9	1375.2	1347.3	1536.3	2427.4	1591.0	1449.8
80°	1165.5	1262.9	1618.7	1007.9	1010.9	1051.7	1045.7	1050.7	1597.0	1152.1	1084.0
82.5°	837.5	958.7	1237.6	772.4	668.4	711.8	720.1	779.3	1126.8	814.6	714.7
85°	429.4	584.5	1138.7	669.0	418.0	346.5	398.6	614.8	978.6	488.1	348.4
87.5°	83.5	162.0	834.5	371.8	187.9	94.9	156.6	260.5	569.1	88.5	43.2
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: P196682
 CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-600

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9
2.5°	2527.3	2463.7	2404.0	2342.4	2294.8	2236.5	2179.4	2129.7	2081.5	2049.7	2059.6
5°	2465.8	2310.7	2171.5	2042.3	1966.6	1875.8	1794.7	1726.7	1674.0	1640.2	1660.5
7.5°	2184.8	1975.2	1791.8	1621.3	1513.9	1396.2	1301.8	1235.0	1194.3	1171.5	1204.8
10°	1897.7	1662.1	1456.3	1278.9	1173.0	1073.0	987.6	917.0	862.3	836.5	849.9
12.5°	1691.9	1429.8	1214.2	1094.9	1004.0	914.5	826.0	743.5	673.9	642.1	635.7
15°	1614.9	1305.2	1085.0	951.7	861.3	763.9	668.4	580.0	513.9	486.5	480.6
17.5°	1648.6	1278.4	1008.5	850.9	719.7	601.4	494.1	410.5	361.8	346.5	347.9
20°	1767.4	1288.2	946.8	747.0	585.0	444.8	337.5	279.8	259.0	255.4	259.5
22.5°	1930.4	1329.0	902.1	657.5	466.2	323.5	251.0	223.7	218.2	217.7	221.7
25°	2145.7	1408.6	872.2	578.0	368.3	256.4	218.7	203.3	198.9	199.8	203.8
27.5°	2399.2	1509.4	852.9	509.4	302.6	228.7	204.4	190.8	186.4	187.4	190.3
30°	2630.8	1597.9	824.1	457.8	271.8	218.7	196.3	182.9	176.9	176.9	178.9
32.5°	2838.0	1674.5	790.3	419.0	243.5	196.3	178.0	167.5	163.1	164.6	165.5
35°	3021.9	1714.8	763.9	396.2	220.7	181.0	162.6	151.6	145.7	146.6	148.1
37.5°	3202.8	1730.1	746.6	383.7	204.4	171.4	154.6	145.7	139.2	138.2	137.6
40°	3374.8	1726.7	730.1	380.2	193.4	164.6	149.5	141.6	135.2	133.8	133.2
42.5°	3523.4	1715.3	714.7	370.8	185.8	159.5	145.7	138.6	132.2	130.2	129.3
45°	3659.1	1708.3	697.8	353.4	189.9	157.6	143.6	136.1	130.2	127.8	126.7
47.5°	3809.7	1733.1	678.9	334.5	188.9	158.1	143.6	135.2	129.3	126.7	125.7
50°	3989.0	1817.1	655.5	308.6	180.0	169.1	143.1	133.8	128.3	126.7	124.8
52.5°	4242.5	1953.3	623.3	275.4	172.9	180.4	142.7	131.2	126.7	124.2	121.9
55°	4590.0	2089.5	581.5	240.1	162.0	172.4	143.6	128.3	123.3	120.7	117.8
57.5°	4874.7	2192.9	528.9	210.8	152.1	163.1	142.1	124.8	119.3	116.8	114.2
60°	4856.3	2202.7	478.7	191.9	146.1	146.6	145.7	122.3	115.9	113.8	111.9
62.5°	4555.7	2080.0	431.9	182.4	141.6	133.8	148.6	119.3	112.3	110.4	108.8
65°	4055.1	1794.2	407.1	182.4	137.6	126.7	129.7	115.3	108.8	106.8	105.9
67.5°	3420.5	1441.9	383.7	186.4	132.2	121.9	117.8	111.3	105.3	103.4	102.3
70°	2741.6	1134.6	367.3	184.4	127.3	116.3	111.3	105.9	99.9	99.4	98.5
72.5°	2150.5	911.6	359.8	184.4	119.7	109.8	104.9	100.8	94.9	94.4	93.0
75°	1723.1	684.4	329.0	181.0	112.3	101.4	96.9	93.4	87.5	88.0	87.0
77.5°	1334.5	484.1	274.9	163.1	102.9	92.0	88.5	86.0	79.0	79.5	79.5
80°	1043.8	315.1	213.3	135.2	92.0	81.0	78.5	76.6	69.1	70.0	70.0
82.5°	715.2	187.4	154.6	108.8	79.0	69.1	68.7	65.5	57.7	58.1	59.1
85°	390.7	123.3	102.9	80.6	62.2	56.2	55.1	53.6	46.2	46.2	46.8
87.5°	72.1	66.1	60.6	53.2	41.7	40.2	38.8	40.2	34.8	33.8	33.8
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: P196682

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-600

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9
2.5°	2036.3	2001.9	1978.1	1957.3	1907.0	1910.5	1917.5	1927.5	1896.0	1912.5	1932.9
5°	1640.2	1611.8	1590.5	1557.2	1487.1	1462.2	1446.4	1439.4	1392.6	1402.6	1424.4
7.5°	1209.3	1208.7	1201.3	1164.0	1079.5	1028.3	994.6	984.1	955.3	966.2	999.5
10°	851.3	860.3	856.8	823.6	748.0	711.3	703.7	724.6	725.2	746.6	803.7
12.5°	615.3	610.3	605.9	578.5	521.8	515.9	532.8	561.6	568.5	591.4	651.0
15°	459.2	447.3	444.8	423.5	386.2	391.7	404.0	419.0	419.4	435.4	484.6
17.5°	344.3	344.3	348.4	334.5	307.7	305.2	298.8	294.8	288.8	295.2	322.1
20°	267.3	279.8	289.7	281.8	257.5	245.5	233.0	225.2	220.7	221.1	229.1
22.5°	229.1	239.1	252.0	248.0	227.6	212.2	204.4	198.9	195.3	195.3	199.8
25°	209.8	216.3	228.2	226.1	208.8	196.3	189.9	184.4	180.4	180.0	184.4
27.5°	194.4	198.3	206.3	205.3	187.4	179.4	175.5	172.0	169.5	169.1	173.5
30°	180.4	182.4	186.4	184.8	171.4	163.6	162.0	160.5	159.1	159.5	166.0
32.5°	168.0	169.5	172.0	170.0	157.0	150.1	147.6	145.7	144.1	145.7	153.1
35°	154.0	158.5	161.4	160.5	146.6	138.2	132.8	127.8	125.7	127.3	135.7
37.5°	142.1	149.5	153.6	152.6	138.2	128.3	121.3	120.3	120.3	122.3	130.7
40°	137.6	143.1	146.6	145.1	130.7	120.7	116.8	115.3	115.9	117.8	126.7
42.5°	133.8	138.6	139.7	136.7	122.3	115.9	113.3	111.3	112.3	114.8	123.8
45°	130.2	134.2	133.8	129.3	115.3	110.8	110.8	109.4	109.8	111.9	121.3
47.5°	127.8	129.7	128.7	124.2	110.4	106.8	108.3	108.3	109.4	110.8	120.3
50°	123.8	125.2	124.2	120.3	106.3	103.4	104.9	106.8	107.8	109.4	117.8
52.5°	119.7	120.7	120.3	116.3	102.3	100.4	100.4	102.3	104.4	106.3	113.8
55°	115.9	116.8	117.4	114.2	99.4	97.5	96.9	96.9	98.9	101.9	109.8
57.5°	112.9	112.9	113.8	111.9	96.4	94.0	91.4	92.0	94.4	96.9	104.9
60°	109.4	109.8	111.3	109.4	92.5	88.5	86.6	88.9	89.9	92.5	100.8
62.5°	106.3	106.3	107.4	105.9	88.9	85.0	83.5	86.0	86.0	88.5	96.9
65°	103.9	103.4	103.4	102.9	85.4	81.5	80.6	81.5	82.1	84.4	93.0
67.5°	101.9	99.4	99.4	100.4	82.1	78.0	77.6	77.6	78.0	81.0	88.5
70°	97.5	95.4	94.9	98.5	78.5	73.5	73.5	72.5	73.5	75.1	83.0
72.5°	92.5	90.9	90.4	95.4	75.1	68.7	67.6	67.0	67.6	69.1	76.6
75°	86.0	85.0	86.0	93.4	71.6	63.2	61.6	61.1	61.1	61.6	69.6
77.5°	78.5	77.6	85.0	87.0	69.6	56.7	55.1	54.2	53.2	53.2	62.2
80°	69.6	69.1	82.1	73.5	66.6	49.7	47.2	45.8	44.7	44.2	53.2
82.5°	60.6	59.6	70.0	57.7	55.1	40.8	37.2	34.3	32.8	32.8	40.8
85°	49.7	49.1	55.1	42.3	38.2	29.8	24.8	22.4	20.4	20.4	26.3
87.5°	36.3	35.3	34.3	25.3	19.3	13.4	9.4	9.0	7.9	7.4	10.9
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: P196682

CATALOG NUMBER: NAV-AF-02-D-UNV-SLL-7030-600

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9	2336.9
2.5°	1963.2	2004.5	2082.5	2146.6	2232.0	2300.7	2378.7	2412.6
5°	1464.7	1529.8	1649.2	1751.0	1892.2	2022.8	2172.0	2253.5
7.5°	1050.7	1147.1	1237.6	1364.8	1541.2	1716.7	1909.6	2017.4
10°	869.2	957.7	1035.3	1125.7	1262.0	1459.2	1689.3	1811.1
12.5°	720.1	815.6	897.6	994.6	1108.9	1287.3	1549.8	1691.4
15°	552.2	656.1	754.4	871.3	1011.4	1215.2	1508.0	1665.9
17.5°	378.2	489.6	610.9	753.5	922.4	1184.9	1547.7	1742.5
20°	257.0	338.4	470.2	639.1	842.5	1170.5	1635.2	1900.1
22.5°	211.2	248.0	346.9	531.8	776.9	1186.3	1777.3	2107.4
25°	193.8	213.7	269.9	437.4	726.7	1228.6	1969.7	2341.4
27.5°	182.9	199.8	236.5	369.8	680.4	1286.3	2203.8	2627.6
30°	176.5	192.3	223.1	335.0	638.2	1336.0	2405.2	2843.5
32.5°	162.0	173.9	199.3	315.1	607.8	1376.2	2582.6	3045.3
35°	144.7	159.1	180.0	302.2	606.8	1395.1	2749.5	3268.4
37.5°	138.2	152.1	167.5	295.2	612.8	1411.1	2953.9	3521.4
40°	134.2	146.6	159.1	294.2	617.8	1423.4	3153.5	3784.8
42.5°	130.7	143.1	157.6	287.3	615.7	1440.4	3330.6	4010.9
45°	129.7	142.1	161.0	276.9	615.3	1466.7	3471.1	4191.8
47.5°	128.7	147.6	160.1	265.4	613.3	1522.4	3629.7	4360.3
50°	127.8	157.6	153.1	249.5	598.4	1617.2	3842.9	4553.2
52.5°	127.3	159.1	145.7	227.6	571.5	1758.0	4155.0	4821.6
55°	125.2	151.1	132.8	198.9	532.8	1909.6	4489.6	5137.2
57.5°	120.7	134.7	125.2	170.5	477.1	2015.4	4736.6	5381.2
60°	131.6	115.9	120.3	156.0	410.5	2034.3	4747.6	5449.9
62.5°	125.7	105.3	115.3	151.1	363.9	1911.1	4530.3	5367.8
65°	100.4	99.9	110.8	156.0	356.8	1635.2	4163.6	5124.8
67.5°	91.4	95.9	106.3	162.0	361.3	1288.2	3623.8	4557.2
70°	85.4	90.9	100.4	167.5	369.3	1014.9	2917.5	3706.3
72.5°	79.5	84.0	94.4	172.9	363.9	800.7	2335.0	2854.8
75°	72.1	76.1	86.0	158.5	312.2	588.5	1855.3	2027.3
77.5°	63.6	67.0	75.5	125.2	234.6	409.5	1389.7	1461.3
80°	54.6	56.2	62.6	91.4	153.1	245.1	1057.6	1165.5
82.5°	43.2	43.7	47.7	67.0	95.4	156.6	733.5	837.5
85°	27.9	28.9	30.8	47.2	64.1	100.4	374.8	429.4
87.5°	9.4	10.9	10.9	22.8	31.3	55.6	114.8	83.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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