

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: P195739

Luminaire Tested: **NAV-AF-01-D-UNV-SLL-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195739
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-SLL-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(1) 70 CRI, 5000K, 1200mA LIGHTSQUARE WITH 16 LEDS EACH AND SPILL LIGHT
ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5920 lumens
Efficiency: N/A
Efficacy: 88.4 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 - G2

Input Watts (W): 67
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

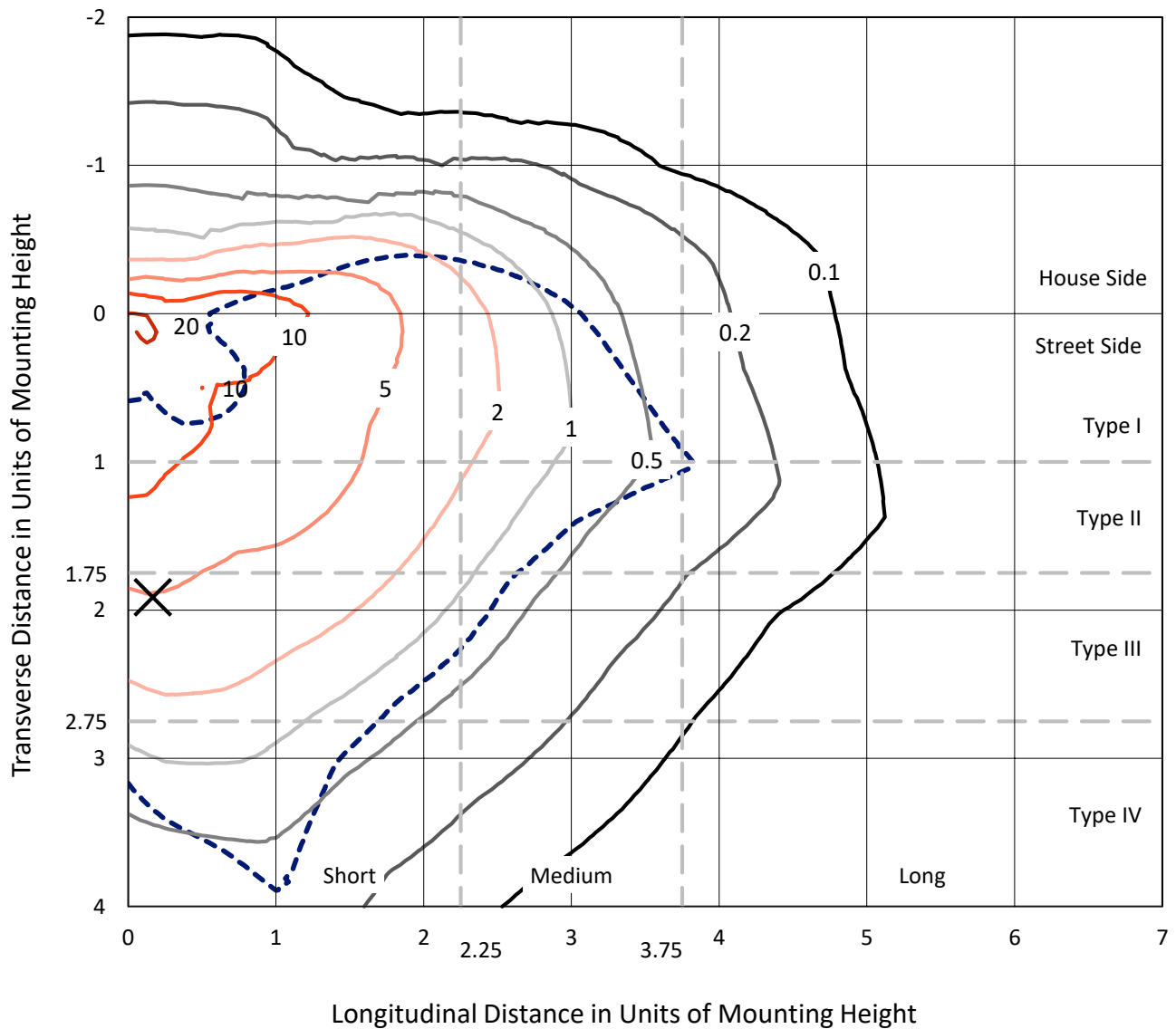


REPORT NUMBER: P195739

CATALOG NUMBER: NAV-AF-01-D-UNV-SLL-7050-1200

Iso-Footcandle Lines of Horizontal Illumination

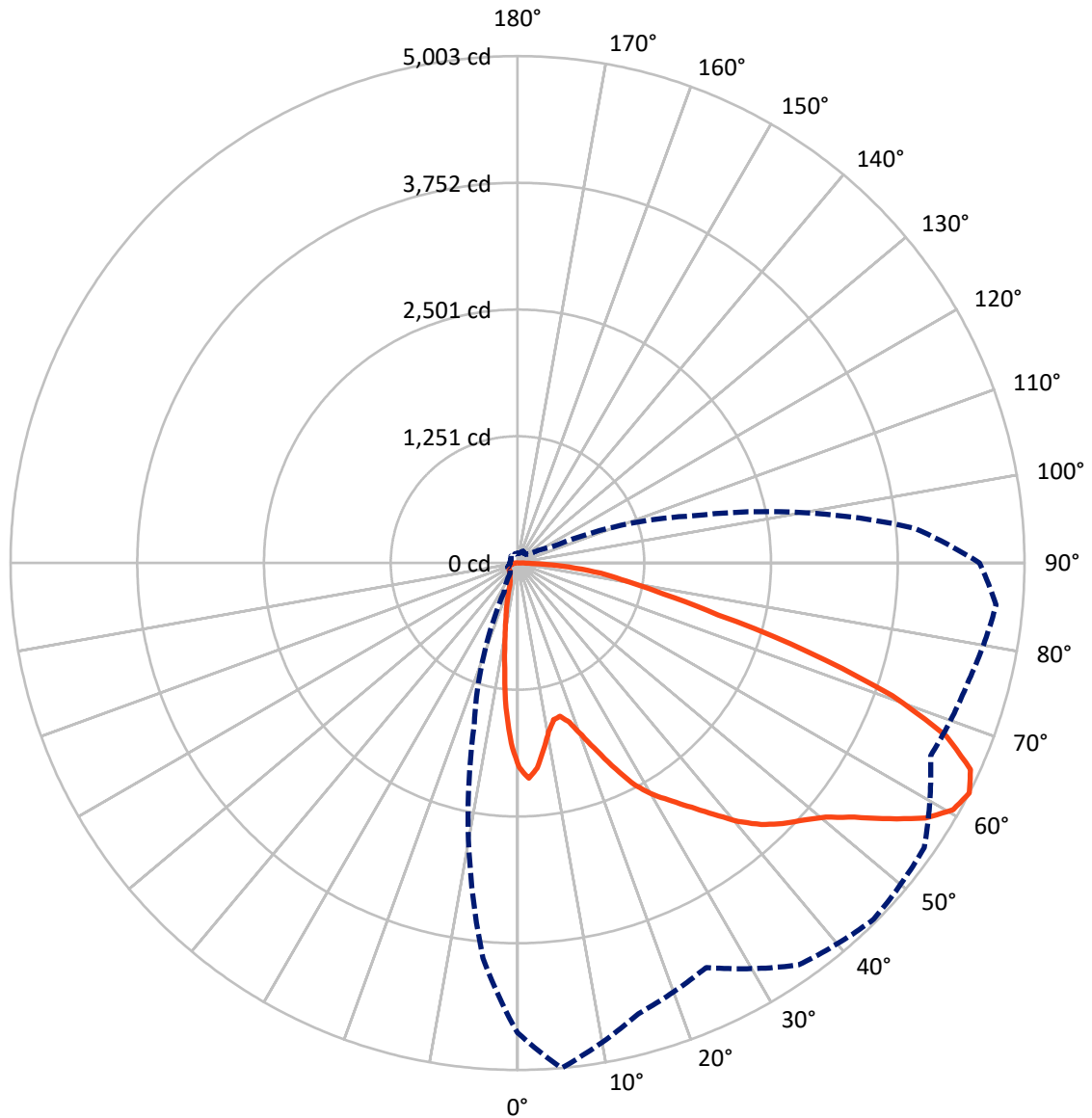
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 23.2 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P195739
CATALOG NUMBER: NAV-AF-01-D-UNV-SLL-7050-1200

Luminous Intensity Polar Plot



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

REPORT NUMBER: P195739

CATALOG NUMBER: NAV-AF-01-D-UNV-SLL-7050-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1048.7	0.0	1048.7
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	4871.3	0.0	4871.3
	% Fixture	82.3	0.0	82.3
Total	Lumens	5920.0	0.0	5920.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	146.8	2.5
10°-20°	268.1	4.5
20°-30°	385.6	6.5
30°-40°	590.6	10.0
40°-50°	863.4	14.6
50°-60°	1256.3	21.2
60°-70°	1455.5	24.6
70°-80°	758.8	12.8
80°-90°	195.0	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°	5920.0	100.0
0°-180°	5920.0	100.0



REPORT NUMBER: P195739

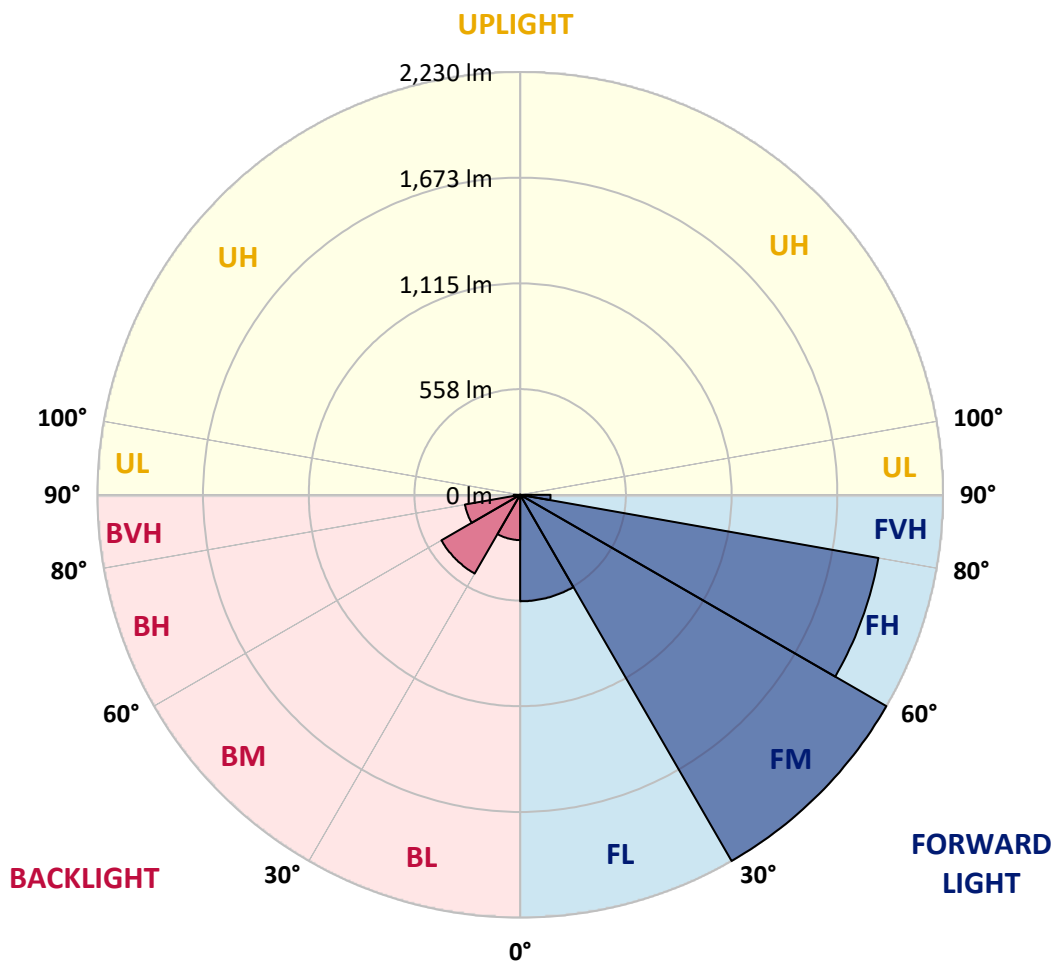
CATALOG NUMBER: NAV-AF-01-D-UNV-SLL-7050-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	561.8	9.5			
FM	(30°-60°)	2230.4	37.7			
FH	(60°-80°)	1918.6	32.4			G2/5000
FVH	(80°-90°)	160.5	2.7			G2/225
BL	(0°-30°)	238.6	4.0	B1/500		
BM	(30°-60°)	479.8	8.1	B1/1000		
BH	(60°-80°)	295.7	5.0	B1/500		G1/500
BVH	(80°-90°)	34.6	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: P195739

CATALOG NUMBER: NAV-AF-01-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2
2.5°	2083.5	2127.7	2178.3	2244.5	2289.5	2307.5	2322.6	2297.2	2272.8	2226.9	2210.5
5°	1946.1	2031.1	2170.6	2303.3	2420.0	2487.0	2507.6	2460.8	2377.5	2257.3	2193.8
7.5°	1742.3	1854.3	2050.4	2245.7	2413.1	2524.7	2532.9	2440.2	2276.2	2079.2	1976.2
10°	1564.1	1690.7	1917.8	2136.3	2313.6	2427.7	2405.4	2275.4	2077.5	1853.4	1737.1
12.5°	1460.7	1587.3	1818.7	2040.6	2207.5	2250.9	2205.4	2095.9	1908.4	1683.9	1566.7
15°	1438.8	1569.3	1783.5	1970.6	2074.0	2046.1	2001.1	1945.7	1812.2	1628.5	1515.2
17.5°	1504.9	1650.8	1830.2	1932.8	1928.5	1861.6	1823.8	1834.5	1811.8	1688.6	1570.1
20°	1641.0	1813.5	1949.1	1922.5	1812.6	1718.6	1696.8	1780.9	1886.0	1839.3	1709.2
22.5°	1819.9	2016.5	2111.4	1952.1	1752.1	1650.8	1646.5	1777.9	2021.3	2067.2	1908.8
25°	2022.1	2251.3	2274.9	2004.5	1745.7	1644.8	1641.0	1824.2	2183.9	2293.0	2132.4
27.5°	2269.3	2488.3	2411.4	2074.5	1774.0	1662.4	1665.0	1903.2	2353.5	2516.2	2384.4
30°	2455.6	2656.5	2495.6	2143.2	1819.5	1693.3	1699.8	1988.6	2444.9	2671.1	2585.7
32.5°	2629.9	2800.3	2576.2	2211.0	1886.0	1739.2	1761.6	2095.1	2554.8	2804.2	2775.8
35°	2822.6	2961.3	2666.0	2283.5	1981.3	1819.9	1852.1	2196.4	2663.8	2937.2	2964.3
37.5°	3041.1	3145.4	2763.4	2386.1	2118.7	1969.3	1987.3	2299.8	2739.8	3084.5	3166.4
40°	3268.6	3351.9	2869.8	2523.0	2318.3	2171.1	2179.6	2432.5	2799.4	3236.8	3362.6
42.5°	3463.9	3528.7	2976.7	2693.0	2547.5	2376.7	2384.0	2575.4	2856.5	3368.2	3519.7
45°	3620.1	3667.8	3077.6	2872.0	2792.2	2633.3	2631.6	2720.9	2932.9	3478.9	3640.3
47.5°	3765.6	3791.0	3190.0	3046.3	3045.8	2963.8	2902.5	2892.6	3034.7	3572.1	3745.5
50°	3932.2	3941.6	3338.6	3222.2	3355.7	3342.9	3229.5	3110.6	3166.4	3676.8	3855.8
52.5°	4164.0	4164.4	3522.7	3393.9	3697.8	3738.6	3606.8	3357.4	3361.3	3880.7	4046.4
55°	4436.5	4455.4	3762.6	3599.5	4055.8	4125.3	4001.3	3650.6	3641.2	4209.5	4355.4
57.5°	4647.3	4747.3	4042.1	3856.6	4390.2	4480.7	4380.7	3954.5	3985.0	4548.6	4610.4
60°	4706.5	4940.5	4320.6	4145.1	4673.0	4809.1	4707.4	4282.9	4321.5	4768.8	4683.8
62.5°	4635.7	5002.7	4604.4	4403.5	4840.9	4971.4	4898.4	4497.9	4595.8	4740.4	4559.7
65°	4425.8	4912.6	4850.7	4513.4	4744.3	4790.7	4771.3	4509.1	4744.7	4472.6	4216.8
67.5°	3935.6	4564.9	4740.9	4278.6	4293.2	4243.4	4218.1	4202.6	4577.3	4040.4	3675.9
70°	3200.8	3922.3	4216.8	3580.6	3472.5	3424.4	3341.1	3547.2	4114.2	3442.4	3025.2
72.5°	2465.5	3000.8	3458.7	2714.5	2489.5	2505.9	2411.4	2712.3	3408.1	2661.2	2309.7
75°	1750.8	2046.1	2760.8	1950.4	1652.5	1651.7	1644.4	1952.1	2689.1	1910.1	1689.9
77.5°	1261.9	1473.1	2162.9	1305.3	1172.7	1187.7	1163.6	1326.8	2096.4	1374.0	1252.1
80°	1006.5	1090.7	1398.0	870.5	873.1	908.3	903.1	907.4	1379.1	995.0	936.2
82.5°	723.3	828.0	1068.8	667.0	577.3	614.7	622.0	673.0	973.1	703.5	617.2
85°	370.9	504.8	983.4	577.7	361.0	299.2	344.2	531.0	845.2	421.5	300.9
87.5°	72.1	139.9	720.7	321.1	162.2	82.0	135.2	224.9	491.5	76.4	37.3
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: P195739

CATALOG NUMBER: NAV-AF-01-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2
2.5°	2182.6	2127.7	2076.2	2023.0	1981.8	1931.5	1882.2	1839.3	1797.6	1770.2	1778.7
5°	2129.4	1995.5	1875.3	1763.7	1698.5	1619.9	1550.0	1491.1	1445.7	1416.5	1434.1
7.5°	1886.9	1705.8	1547.4	1400.2	1307.4	1205.7	1124.2	1066.6	1031.4	1011.7	1040.5
10°	1638.8	1435.3	1257.6	1104.4	1013.0	926.7	852.9	791.9	744.7	722.4	734.0
12.5°	1461.1	1234.9	1048.6	945.6	867.0	789.8	713.4	642.1	582.0	554.6	549.0
15°	1394.6	1127.2	937.0	822.0	743.9	659.7	577.3	500.9	443.8	420.2	415.1
17.5°	1423.8	1104.0	870.9	734.8	621.5	519.4	426.7	354.5	312.5	299.2	300.5
20°	1526.3	1112.6	817.7	645.1	505.2	384.2	291.4	241.7	223.6	220.6	224.1
22.5°	1667.1	1147.8	779.1	567.9	402.6	279.4	216.8	193.2	188.4	188.0	191.4
25°	1853.0	1216.4	753.3	499.2	318.1	221.5	188.9	175.6	171.7	172.6	176.0
27.5°	2071.9	1303.6	736.6	440.0	261.4	197.4	176.4	164.8	161.0	161.8	164.4
30°	2271.9	1380.0	711.7	395.3	234.8	188.9	169.5	158.0	152.8	152.8	154.5
32.5°	2450.9	1446.1	682.5	361.8	210.3	169.5	153.7	144.7	140.8	142.1	142.9
35°	2609.7	1480.8	659.7	342.1	190.6	156.2	140.4	130.9	125.8	126.6	127.9
37.5°	2766.0	1494.2	644.7	331.4	176.4	148.1	133.5	125.8	120.2	119.3	118.9
40°	2914.5	1491.1	630.5	328.4	167.0	142.1	129.2	122.3	116.8	115.5	115.0
42.5°	3042.8	1481.3	617.2	320.2	160.5	137.8	125.8	119.8	114.2	112.5	111.6
45°	3160.0	1475.3	602.6	305.2	164.0	136.1	124.0	117.6	112.5	110.3	109.5
47.5°	3290.1	1496.7	586.3	288.9	163.1	136.5	124.0	116.8	111.6	109.5	108.6
50°	3445.0	1569.3	566.2	266.6	155.4	145.9	123.6	115.5	110.7	109.5	107.7
52.5°	3663.9	1686.9	538.3	237.8	149.4	155.8	123.2	113.3	109.5	107.3	105.2
55°	3964.0	1804.5	502.2	207.3	139.9	148.9	124.0	110.7	106.4	104.3	101.7
57.5°	4209.9	1893.8	456.7	182.0	131.3	140.8	122.8	107.7	103.0	100.9	98.7
60°	4194.0	1902.4	413.3	165.7	126.2	126.6	125.8	105.6	100.0	98.3	96.6
62.5°	3934.3	1796.3	373.0	157.5	122.3	115.5	128.3	103.0	97.0	95.3	94.0
65°	3502.1	1549.5	351.5	157.5	118.9	109.5	112.0	99.6	94.0	92.3	91.4
67.5°	2954.0	1245.2	331.4	161.0	114.2	105.2	101.7	96.1	91.0	89.3	88.4
70°	2367.6	979.9	317.2	159.2	109.9	100.4	96.1	91.4	86.3	85.8	85.0
72.5°	1857.3	787.2	310.8	159.2	103.4	94.9	90.6	87.1	82.0	81.6	80.3
75°	1488.1	591.1	284.2	156.2	97.0	87.6	83.7	80.7	75.5	76.0	75.1
77.5°	1152.5	418.1	237.4	140.8	88.9	79.4	76.4	74.3	68.2	68.7	68.7
80°	901.4	272.1	184.1	116.8	79.4	70.0	67.8	66.1	59.7	60.5	60.5
82.5°	617.7	161.8	133.5	94.0	68.2	59.7	59.2	56.7	49.8	50.2	51.1
85°	337.4	106.4	88.9	69.5	53.7	48.5	47.6	46.4	39.9	39.9	40.3
87.5°	62.2	57.1	52.4	45.9	36.1	34.8	33.5	34.8	30.0	29.2	29.2
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: P195739

CATALOG NUMBER: NAV-AF-01-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (continued):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2
2.5°	1758.6	1728.9	1708.3	1690.3	1647.0	1650.0	1656.0	1664.6	1637.5	1651.7	1669.3
5°	1416.5	1392.0	1373.5	1344.8	1284.3	1262.8	1249.1	1243.1	1202.7	1211.3	1230.2
7.5°	1044.3	1043.9	1037.5	1005.3	932.3	888.1	858.9	849.9	825.0	834.4	863.2
10°	735.3	743.0	740.0	711.2	646.0	614.2	607.8	625.8	626.2	644.7	694.1
12.5°	531.4	527.1	523.2	499.6	450.7	445.5	460.1	485.0	491.0	510.8	562.3
15°	396.6	386.3	384.2	365.7	333.5	338.2	349.0	361.8	362.3	376.0	418.5
17.5°	297.5	297.5	300.9	288.9	265.7	263.5	258.0	254.5	249.4	255.0	278.1
20°	230.9	241.7	250.2	243.4	222.3	212.0	201.3	194.4	190.6	191.0	197.9
22.5°	197.9	206.5	217.6	214.2	196.6	183.3	176.4	171.7	168.7	168.7	172.6
25°	181.1	186.7	197.0	195.3	180.3	169.5	164.0	159.2	155.8	155.4	159.2
27.5°	167.8	171.3	178.1	177.3	161.8	155.0	151.5	148.5	146.4	145.9	149.8
30°	155.8	157.5	161.0	159.7	148.1	141.2	139.9	138.6	137.4	137.8	143.4
32.5°	145.1	146.4	148.5	146.8	135.6	129.6	127.5	125.8	124.5	125.8	132.2
35°	133.1	136.9	139.5	138.6	126.6	119.3	114.6	110.3	108.6	109.9	117.2
37.5°	122.8	129.2	132.6	131.8	119.3	110.7	104.7	103.9	103.9	105.6	112.9
40°	118.9	123.6	126.6	125.3	112.9	104.3	100.9	99.6	100.0	101.7	109.5
42.5°	115.5	119.8	120.6	118.0	105.6	100.0	97.9	96.1	97.0	99.2	106.9
45°	112.5	115.9	115.5	111.6	99.6	95.7	95.7	94.4	94.9	96.6	104.7
47.5°	110.3	112.0	111.2	107.3	95.3	92.3	93.6	93.6	94.4	95.7	103.9
50°	106.9	108.2	107.3	103.9	91.9	89.3	90.6	92.3	93.1	94.4	101.7
52.5°	103.4	104.3	103.9	100.4	88.4	86.7	86.7	88.4	90.1	91.9	98.3
55°	100.0	100.9	101.3	98.7	85.8	84.1	83.7	83.7	85.4	88.0	94.9
57.5°	97.4	97.4	98.3	96.6	83.3	81.1	79.0	79.4	81.6	83.7	90.6
60°	94.4	94.9	96.1	94.4	79.8	76.4	74.7	76.8	77.7	79.8	87.1
62.5°	91.9	91.9	92.7	91.4	76.8	73.4	72.1	74.3	74.3	76.4	83.7
65°	89.7	89.3	89.3	88.9	73.8	70.4	69.5	70.4	70.8	73.0	80.3
67.5°	88.0	85.8	85.8	86.7	70.8	67.4	67.0	67.0	67.4	70.0	76.4
70°	84.1	82.4	82.0	85.0	67.8	63.5	63.5	62.7	63.5	64.8	71.7
72.5°	79.8	78.5	78.1	82.4	64.8	59.2	58.4	57.9	58.4	59.7	66.1
75°	74.3	73.4	74.3	80.7	61.8	54.5	53.2	52.8	52.8	53.2	60.1
77.5°	67.8	67.0	73.4	75.1	60.1	48.9	47.6	46.8	45.9	45.9	53.7
80°	60.1	59.7	70.8	63.5	57.5	42.9	40.8	39.5	38.6	38.2	45.9
82.5°	52.4	51.5	60.5	49.8	47.6	35.2	32.2	29.6	28.3	28.3	35.2
85°	42.9	42.5	47.6	36.5	33.1	25.8	21.5	19.3	17.6	17.6	22.7
87.5°	31.3	30.5	29.6	21.9	16.7	11.6	8.2	7.7	6.9	6.4	9.4
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: P195739

CATALOG NUMBER: NAV-AF-01-D-UNV-SLL-7050-1200

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2	2018.2
2.5°	1695.5	1731.1	1798.5	1853.9	1927.7	1986.9	2054.3	2083.5
5°	1264.9	1321.2	1424.2	1512.2	1634.1	1747.0	1875.7	1946.1
7.5°	907.4	990.7	1068.8	1178.7	1331.0	1482.6	1649.1	1742.3
10°	750.7	827.1	894.1	972.2	1089.8	1260.2	1459.0	1564.1
12.5°	622.0	704.4	775.2	858.9	957.6	1111.7	1338.3	1460.7
15°	476.9	566.6	651.6	752.4	873.5	1049.5	1302.3	1438.8
17.5°	326.6	422.8	527.5	650.7	796.7	1023.3	1336.6	1504.9
20°	221.9	292.3	406.1	552.0	727.5	1010.8	1412.2	1641.0
22.5°	182.4	214.2	299.6	459.3	670.9	1024.6	1534.9	1819.9
25°	167.4	184.6	233.1	377.7	627.5	1061.1	1701.0	2022.1
27.5°	158.0	172.6	204.3	319.3	587.6	1110.9	1903.2	2269.3
30°	152.4	166.1	192.7	289.3	551.1	1153.8	2077.1	2455.6
32.5°	139.9	150.2	172.1	272.1	524.9	1188.5	2230.3	2629.9
35°	124.9	137.4	155.4	261.0	524.1	1204.9	2374.5	2822.6
37.5°	119.3	131.3	144.7	255.0	529.2	1218.6	2550.9	3041.1
40°	115.9	126.6	137.4	254.1	533.5	1229.3	2723.5	3268.6
42.5°	112.9	123.6	136.1	248.1	531.8	1243.9	2876.3	3463.9
45°	112.0	122.8	139.1	239.1	531.4	1266.7	2997.8	3620.1
47.5°	111.2	127.5	138.2	229.2	529.7	1314.7	3134.7	3765.6
50°	110.3	136.1	132.2	215.5	516.8	1396.7	3318.8	3932.2
52.5°	109.9	137.4	125.8	196.6	493.6	1518.2	3588.4	4164.0
55°	108.2	130.5	114.6	171.7	460.1	1649.1	3877.2	4436.5
57.5°	104.3	116.3	108.2	147.2	412.1	1740.5	4090.6	4647.3
60°	113.7	100.0	103.9	134.8	354.5	1756.8	4100.0	4706.5
62.5°	108.6	91.0	99.6	130.5	314.2	1650.4	3912.4	4635.7
65°	86.7	86.3	95.7	134.8	308.2	1412.2	3595.7	4425.8
67.5°	79.0	82.8	91.9	139.9	312.1	1112.6	3129.5	3935.6
70°	73.8	78.5	86.7	144.7	318.9	876.5	2519.6	3200.8
72.5°	68.7	72.5	81.6	149.4	314.2	691.5	2016.5	2465.5
75°	62.2	65.7	74.3	136.9	269.6	508.2	1602.3	1750.8
77.5°	54.9	57.9	65.2	108.2	202.6	353.7	1200.1	1261.9
80°	47.2	48.5	54.1	79.0	132.2	211.6	913.4	1006.5
82.5°	37.3	37.8	41.2	57.9	82.4	135.2	633.5	723.3
85°	24.0	24.9	26.6	40.8	55.4	86.7	323.6	370.9
87.5°	8.2	9.4	9.4	19.7	27.0	48.1	99.2	72.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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