

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: P196635

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7030-600-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196635  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)  
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-SL4-7030-600-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL  
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9402.9 lumens  
Efficiency: N/A  
Efficacy: 97.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

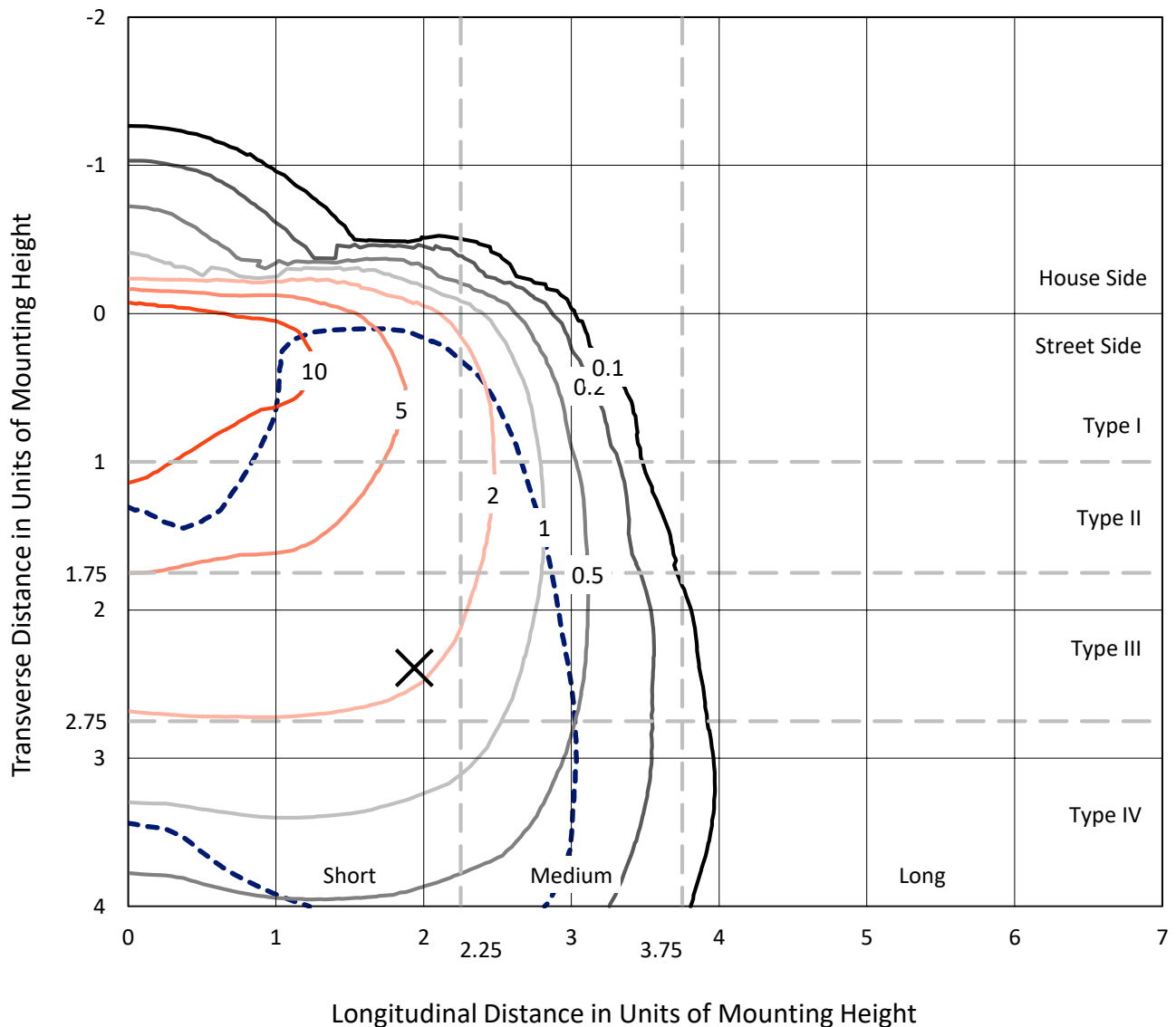
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P196635  
 CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-7030-600-HSS

### Iso-Footcandle Lines of Horizontal Illumination

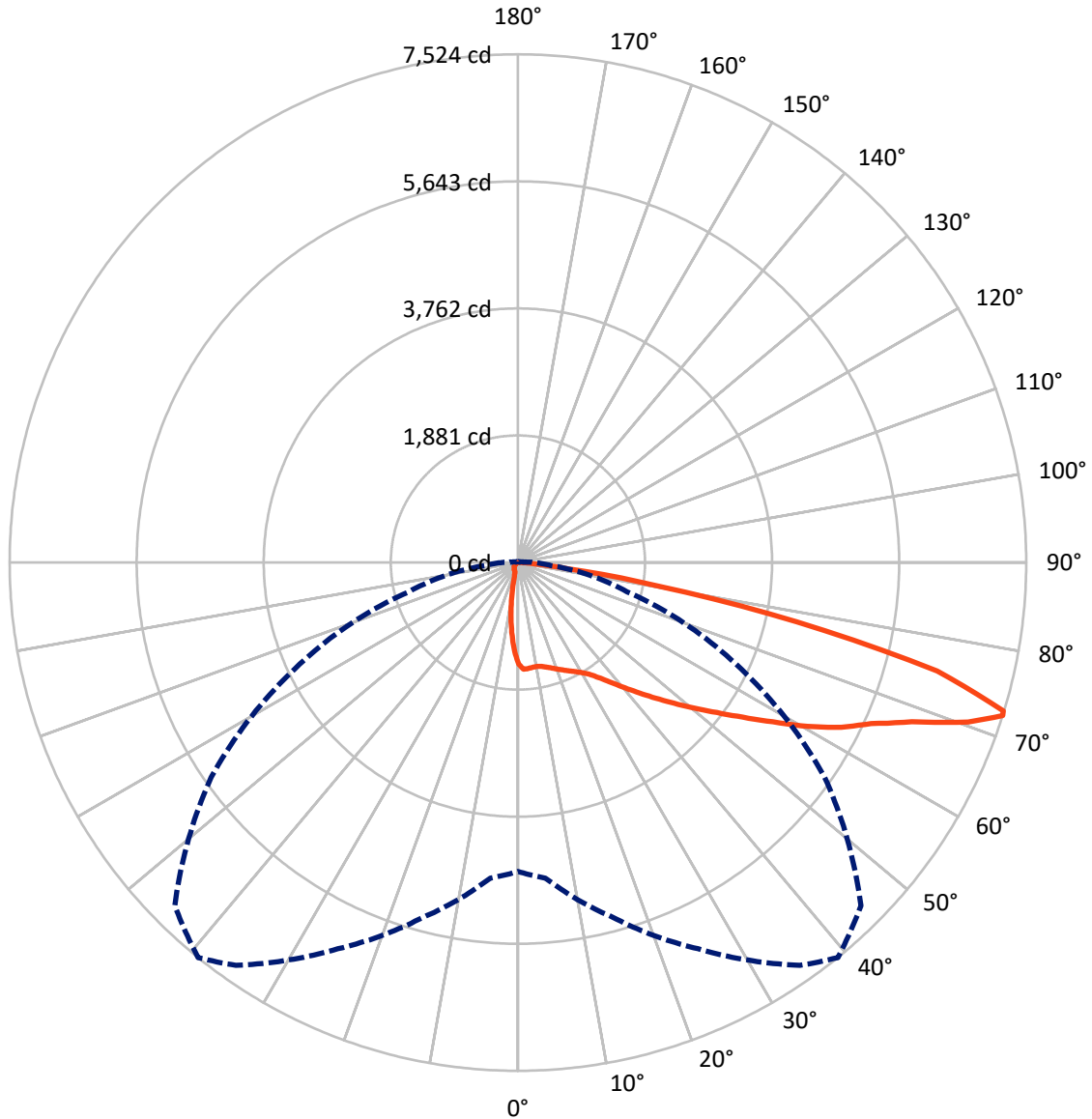
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.8 fc  
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196635  
CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-7030-600-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral      - - - Horizontal Cone Through 72-Deg Vertical

REPORT NUMBER: P196635

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-7030-600-HSS

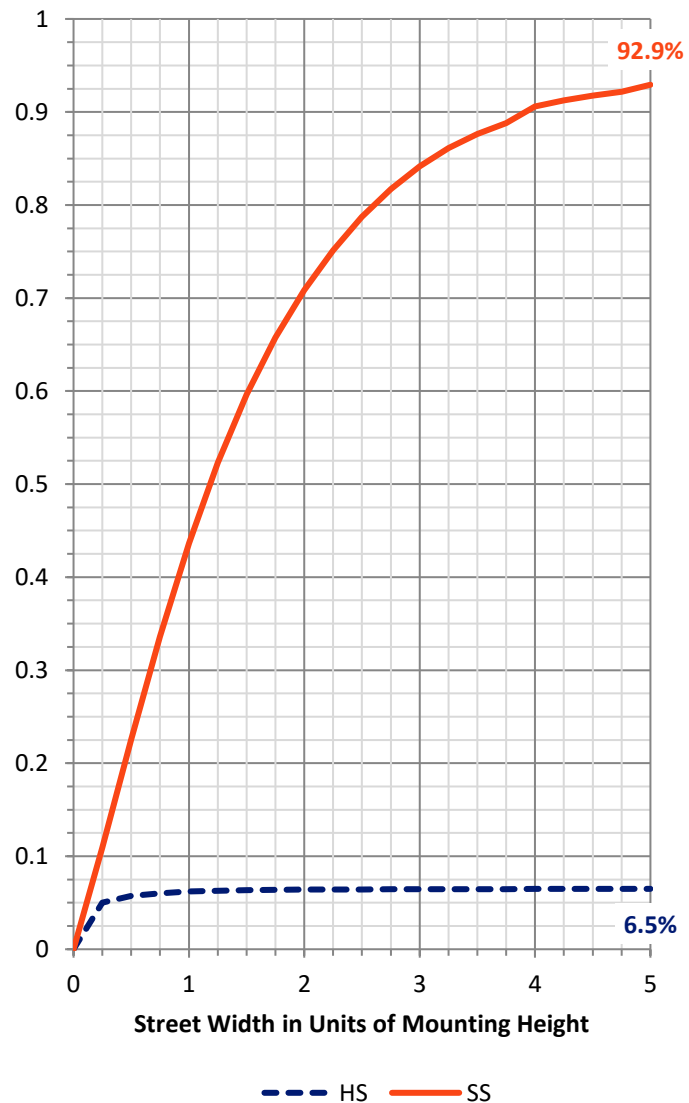
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	616.3	0.0	616.3
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	8786.6	0.0	8786.6
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	9402.9	0.0	9402.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.4	1.3
10°-20°	296.4	3.2
20°-30°	492.2	5.2
30°-40°	784.5	8.3
40°-50°	1294.9	13.8
50°-60°	1955.5	20.8
60°-70°	2547.3	27.1
70°-80°	1721.3	18.3
80°-90°	188.5	2.0
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°	9402.9	100.0
0°-180°	9402.9	100.0



REPORT NUMBER: P196635

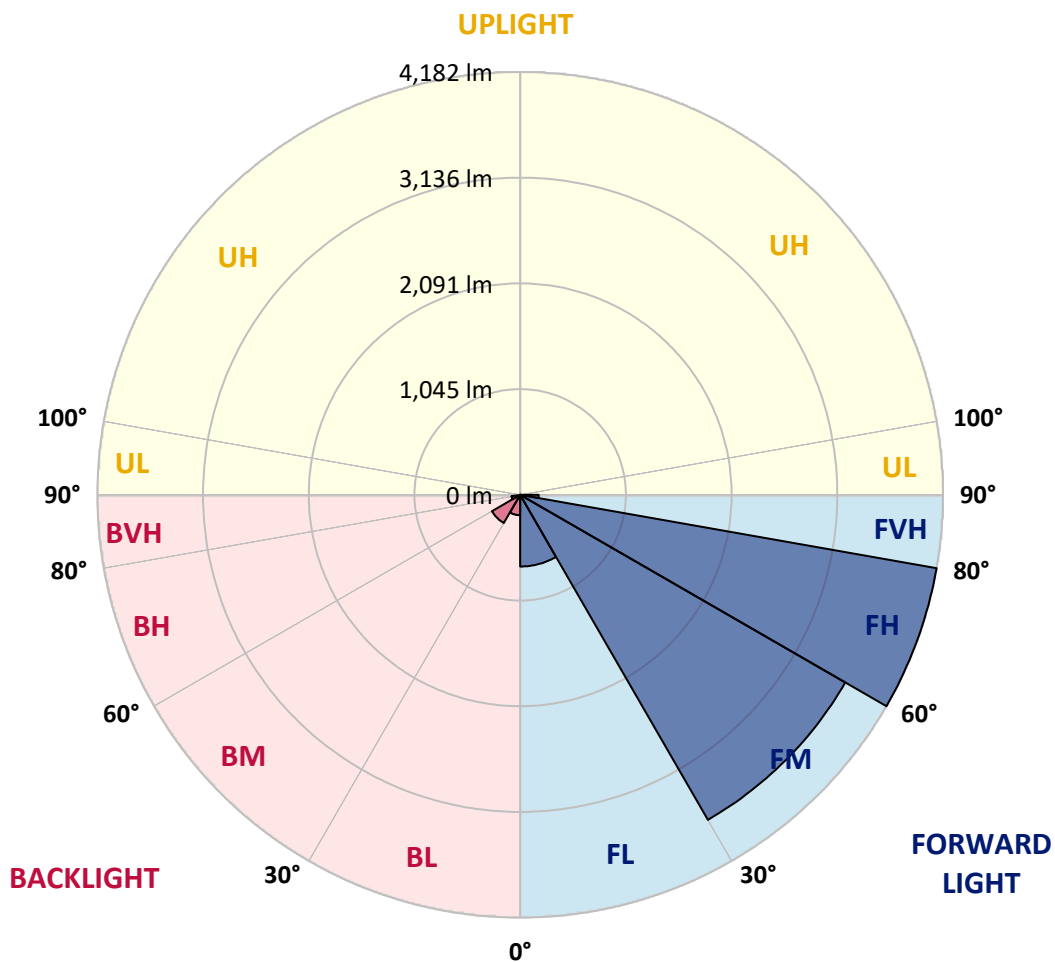
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	709.2	7.5			
FM	(30°-60°)	3712.4	39.5			
FH	(60°-80°)	4182.0	44.5			G2/5000
FVH	(80°-90°)	183.1	1.9			G2/225
BL	(0°-30°)	201.8	2.1	B1/500		
BM	(30°-60°)	322.4	3.4	B1/1000		
BH	(60°-80°)	86.6	0.9	B0/110		G0/110
BVH	(80°-90°)	5.4	0.1			G0/10
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: P196635

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-7030-600-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9
2.5°	1602.5	1605.6	1601.8	1595.1	1585.6	1579.7	1571.4	1553.7	1531.6	1512.3	1490.2
5°	1615.2	1616.6	1612.1	1599.5	1584.8	1576.7	1566.3	1547.1	1524.1	1497.6	1457.6
7.5°	1618.7	1618.1	1612.8	1597.4	1574.4	1564.1	1546.3	1522.7	1499.0	1474.7	1429.5
10°	1617.4	1617.4	1613.6	1598.9	1573.0	1563.4	1543.4	1518.2	1488.7	1464.3	1416.3
12.5°	1612.1	1615.2	1612.8	1604.8	1585.6	1578.1	1560.4	1535.3	1507.2	1482.1	1431.1
15°	1618.7	1623.3	1627.8	1624.6	1613.6	1606.9	1590.7	1564.8	1541.9	1515.3	1460.7
17.5°	1645.5	1655.1	1665.4	1666.1	1654.3	1642.5	1624.0	1597.4	1575.2	1550.8	1491.7
20°	1695.7	1703.2	1722.4	1726.0	1702.4	1685.4	1659.4	1628.4	1606.2	1585.6	1520.6
22.5°	1770.3	1778.5	1794.0	1788.8	1748.9	1728.9	1696.5	1661.0	1638.1	1626.3	1553.7
25°	1883.4	1885.7	1889.3	1866.4	1800.7	1778.5	1738.6	1698.7	1680.2	1678.7	1601.0
27.5°	2016.5	2019.4	2003.2	1952.3	1858.3	1829.4	1784.4	1748.1	1739.3	1750.5	1661.0
30°	2168.8	2169.6	2124.4	2041.6	1924.8	1893.0	1846.5	1806.6	1814.7	1842.1	1737.9
32.5°	2324.7	2317.4	2255.2	2147.4	2015.8	1977.4	1937.3	1897.5	1921.1	1976.6	1850.2
35°	2467.4	2464.5	2391.2	2265.6	2134.1	2100.1	2071.2	2029.1	2067.5	2157.7	2003.2
37.5°	2610.1	2607.9	2524.3	2393.6	2279.7	2255.2	2233.8	2201.3	2264.2	2396.5	2207.9
40°	2767.5	2763.8	2661.1	2535.4	2448.9	2435.6	2423.1	2409.0	2516.2	2700.3	2462.9
42.5°	2961.9	2945.6	2806.0	2689.9	2635.3	2638.9	2639.6	2653.7	2821.5	3061.8	2763.8
45°	3185.1	3149.0	2951.5	2855.5	2839.9	2862.1	2884.3	2942.7	3177.0	3477.8	3096.4
47.5°	3401.8	3343.4	3119.4	3033.6	3065.4	3111.2	3164.4	3278.4	3576.2	3913.2	3398.1
50°	3588.1	3528.2	3285.7	3214.7	3316.0	3384.0	3478.6	3650.9	3997.6	4281.4	3588.1
52.5°	3734.4	3687.1	3461.7	3414.4	3594.0	3687.1	3835.6	4061.8	4395.2	4523.9	3721.1
55°	3842.3	3818.6	3630.1	3636.8	3903.0	4037.4	4222.3	4478.0	4730.8	4712.4	3820.9
57.5°	3964.3	3945.8	3806.8	3899.3	4274.8	4448.4	4662.1	4867.5	4974.7	4863.9	3918.5
60°	4089.1	4095.1	4021.2	4217.1	4734.5	4926.7	5113.0	5163.9	5184.0	5017.6	4021.2
62.5°	4183.7	4208.8	4215.6	4560.1	5206.1	5370.2	5450.7	5414.6	5410.1	5223.8	4013.1
65°	4292.5	4358.3	4467.6	4936.4	5634.8	5742.7	5800.3	5852.9	5742.0	5285.2	3618.3
67.5°	4480.1	4583.8	4829.8	5397.5	6130.1	6289.7	6453.1	6397.6	5791.5	4662.1	2756.4
70°	4733.0	4859.5	5294.0	6000.0	6802.1	7069.6	7206.3	6354.1	4917.1	3221.4	1454.0
72°	4573.4	4687.9	5437.5	6307.5	7278.1	7523.5	7181.2	5542.4	3564.4	1669.8	487.1
72.5°	4418.1	4536.5	5391.6	6303.8	7325.4	7513.1	7017.8	5222.4	3154.1	1299.5	335.7
75°	3065.4	3214.7	4622.1	5666.6	6615.0	6408.7	5369.4	3162.3	1142.8	223.2	110.9
77.5°	1584.8	1700.2	2803.7	4004.2	4610.3	4222.3	3173.3	1372.0	316.5	118.2	73.2
80°	982.4	1039.3	1311.3	1972.9	2395.0	2094.8	1400.0	554.4	202.5	70.3	58.4
82.5°	508.6	552.2	825.7	796.1	884.8	735.6	516.7	464.3	124.9	43.6	59.9
85°	167.0	177.4	507.1	529.3	378.5	254.2	229.1	442.8	36.3	28.1	51.1
87.5°	22.2	25.9	178.1	303.0	186.3	115.3	137.4	156.0	12.6	15.6	14.1
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: P196635

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-7030-600-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9	1504.9
2.5°	1475.4	1465.8	1435.5	1405.2	1370.4	1338.7	1313.6	1297.2	1304.7	1280.3	1284.1
5°	1433.3	1408.9	1342.4	1270.6	1193.0	1120.6	1063.0	1020.1	1012.0	975.0	976.4
7.5°	1392.6	1352.7	1244.8	1126.6	997.9	893.6	799.0	716.3	686.7	656.4	638.6
10°	1370.4	1315.8	1162.7	990.6	809.4	656.4	523.4	419.1	375.6	343.7	328.3
12.5°	1377.1	1304.7	1101.5	867.1	629.0	434.7	295.6	219.5	193.0	178.1	172.9
15°	1399.3	1306.8	1045.9	746.6	457.6	263.2	173.7	148.6	146.4	145.7	144.9
17.5°	1420.0	1309.2	987.6	620.9	306.0	167.8	139.8	137.4	137.4	137.4	137.4
20°	1441.4	1309.8	923.2	489.4	201.0	137.4	131.5	130.1	131.5	131.5	131.5
22.5°	1466.6	1315.1	861.2	361.4	148.6	129.4	125.6	124.9	125.6	125.6	124.9
25°	1497.6	1326.1	793.9	258.7	134.5	124.2	120.5	119.7	120.5	119.7	119.7
27.5°	1539.0	1340.9	715.5	185.5	128.6	119.0	115.3	115.3	115.3	114.6	114.6
30°	1592.2	1358.6	610.5	146.4	122.7	113.8	110.9	110.9	110.2	109.4	109.4
32.5°	1668.4	1387.5	496.0	132.3	116.1	107.2	104.3	105.0	104.3	103.5	102.7
35°	1776.2	1432.5	383.0	124.9	109.4	100.5	97.6	97.6	97.6	96.1	96.1
37.5°	1929.3	1501.3	286.8	117.6	102.7	93.9	90.1	90.1	89.5	88.0	88.7
40°	2118.5	1587.7	207.7	110.9	96.1	86.6	83.5	82.1	80.6	79.1	79.1
42.5°	2346.3	1672.0	156.0	104.3	89.5	80.6	76.9	75.4	72.4	70.9	70.3
45°	2601.3	1761.5	129.4	96.1	82.1	74.0	70.9	68.0	64.4	62.1	61.4
47.5°	2816.2	1816.2	115.3	88.0	74.7	67.3	64.4	59.9	55.4	54.0	54.0
50°	2945.6	1793.3	103.5	79.9	67.3	60.6	57.0	51.1	48.1	46.6	45.8
52.5°	3018.1	1725.3	93.9	73.2	60.6	53.2	48.1	42.8	41.4	39.9	39.9
55°	3067.7	1627.0	83.5	66.5	54.7	46.6	40.7	36.9	35.5	34.8	34.0
57.5°	3115.0	1507.2	74.0	60.6	48.8	41.4	34.8	33.3	30.3	29.6	29.6
60°	3128.9	1342.4	65.0	54.0	43.6	36.3	30.3	28.1	25.1	24.4	24.4
62.5°	2950.1	1068.1	57.7	45.8	38.5	31.0	26.7	23.6	20.6	20.6	20.6
65°	2465.2	725.2	49.5	39.9	34.0	26.7	23.0	19.2	17.7	17.7	17.7
67.5°	1717.1	404.4	42.2	34.0	28.9	22.2	19.2	16.3	15.6	16.3	16.3
70°	773.9	160.4	35.5	28.1	23.6	18.5	16.3	14.1	15.6	15.6	15.6
72°	232.0	85.8	29.6	23.0	19.2	16.3	14.1	13.3	14.7	15.6	15.6
72.5°	172.2	76.9	28.1	22.2	19.2	15.6	13.3	13.3	14.7	15.6	15.6
75°	88.7	52.5	21.5	16.3	14.1	12.6	11.0	12.6	14.7	14.7	14.7
77.5°	69.5	42.8	17.7	12.6	11.8	11.0	10.4	11.8	13.3	13.3	13.3
80°	65.0	28.1	14.1	11.8	10.4	9.7	9.7	10.4	11.8	12.6	12.6
82.5°	65.8	23.0	12.6	11.0	9.7	8.8	8.8	9.7	11.0	11.8	11.8
85°	42.2	15.6	11.0	9.7	8.8	8.0	8.0	8.8	10.4	11.0	11.0
87.5°	14.1	11.8	9.7	8.8	7.4	7.4	7.4	7.4	8.8	9.7	10.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)