

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: P197122

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-8030-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197122  
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-04-D-UNV-SL4-8030-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 80 CRI, 3000K, 800mA 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: 13103 lumens  
Efficiency: N/A  
Efficacy: 76.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G3

Input Watts (W): 171  
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

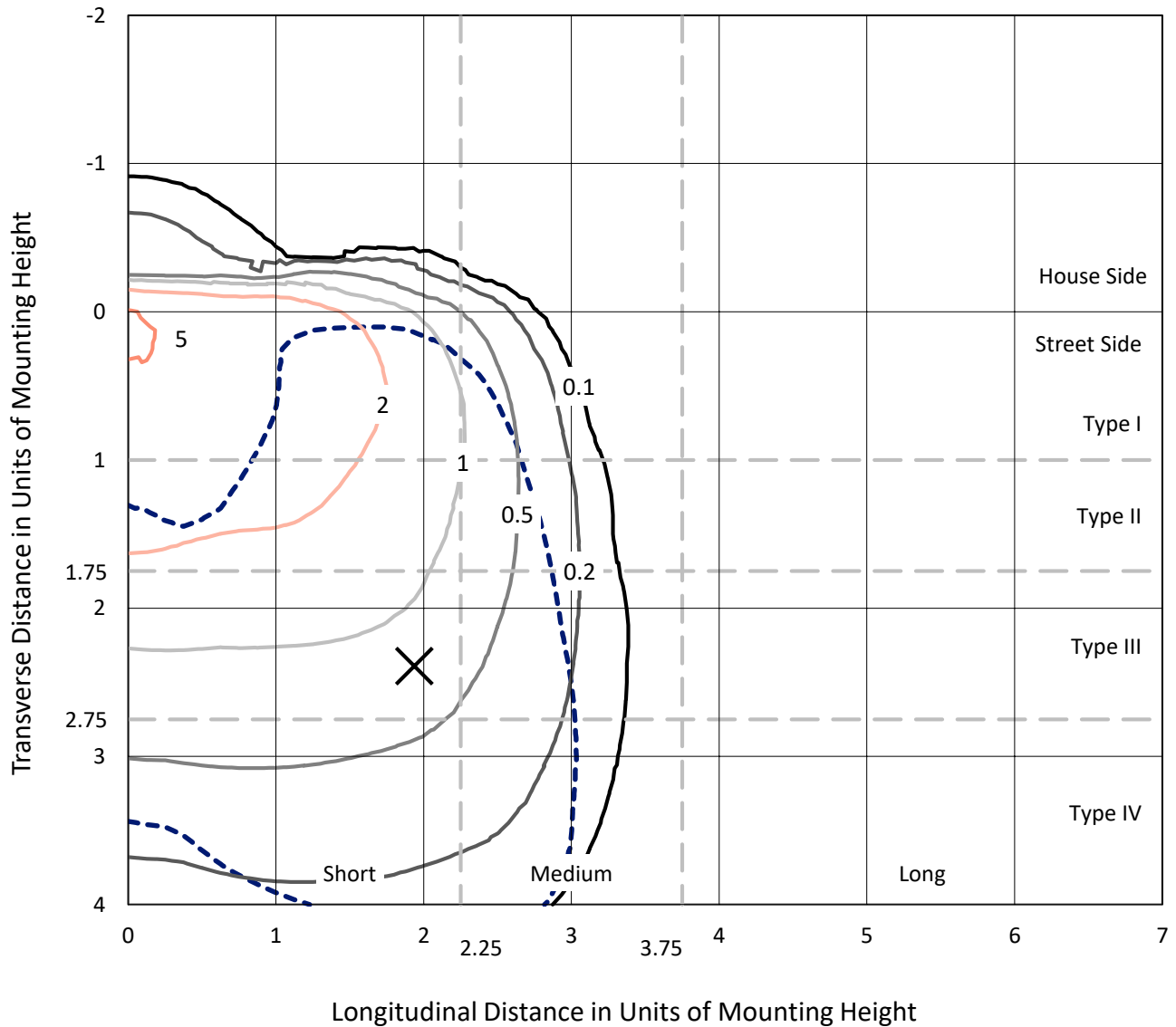


REPORT NUMBER: P197122

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-800-HSS

### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

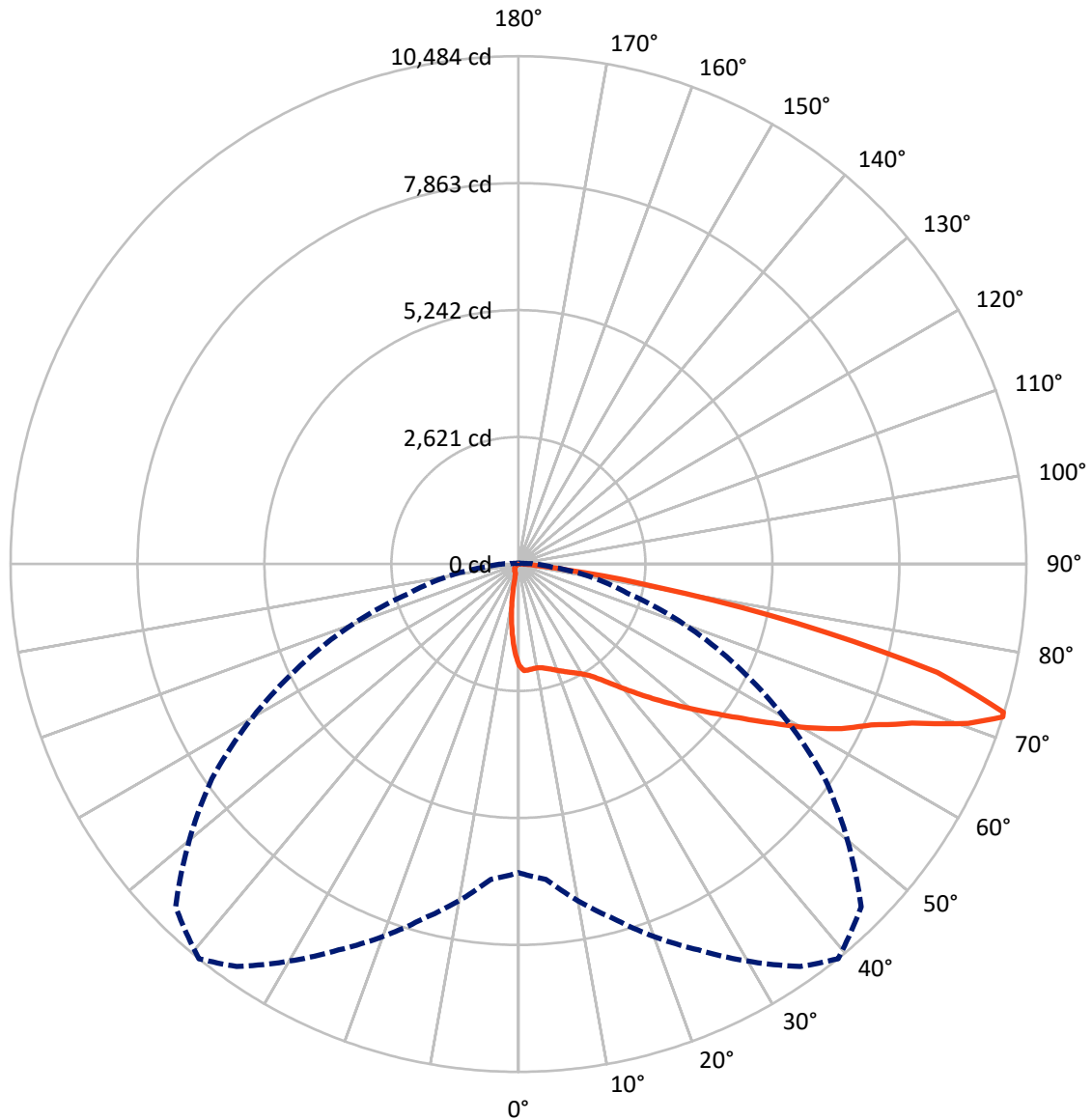


Based on 20 foot mounting height. Maximum calculated value = 5.5 fc  
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P197122

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-800-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P197122

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-800-HSS

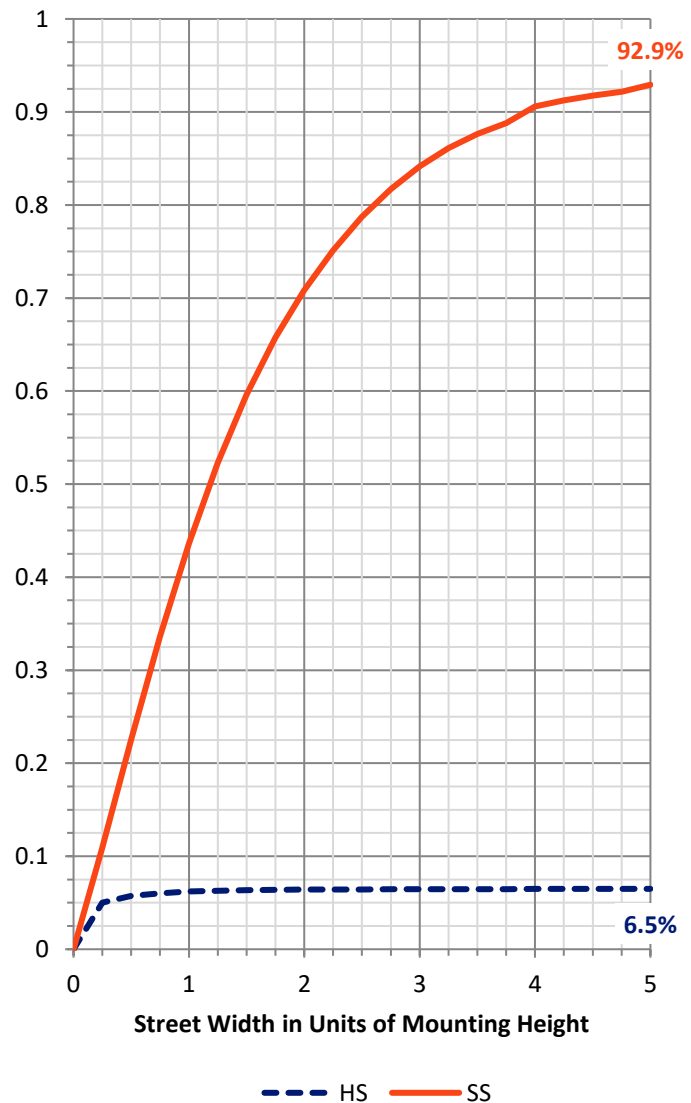
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	858.8	0.0	858.8
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	12244.3	0.0	12244.3
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	13103.0	0.0	13103.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	170.6	1.3
10°-20°	413.0	3.2
20°-30°	685.9	5.2
30°-40°	1093.2	8.3
40°-50°	1804.4	13.8
50°-60°	2725.0	20.8
60°-70°	3549.7	27.1
70°-80°	2398.6	18.3
80°-90°	262.7	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°	13103.0	100.0
0°-180°	13103.0	100.0



REPORT NUMBER: P197122

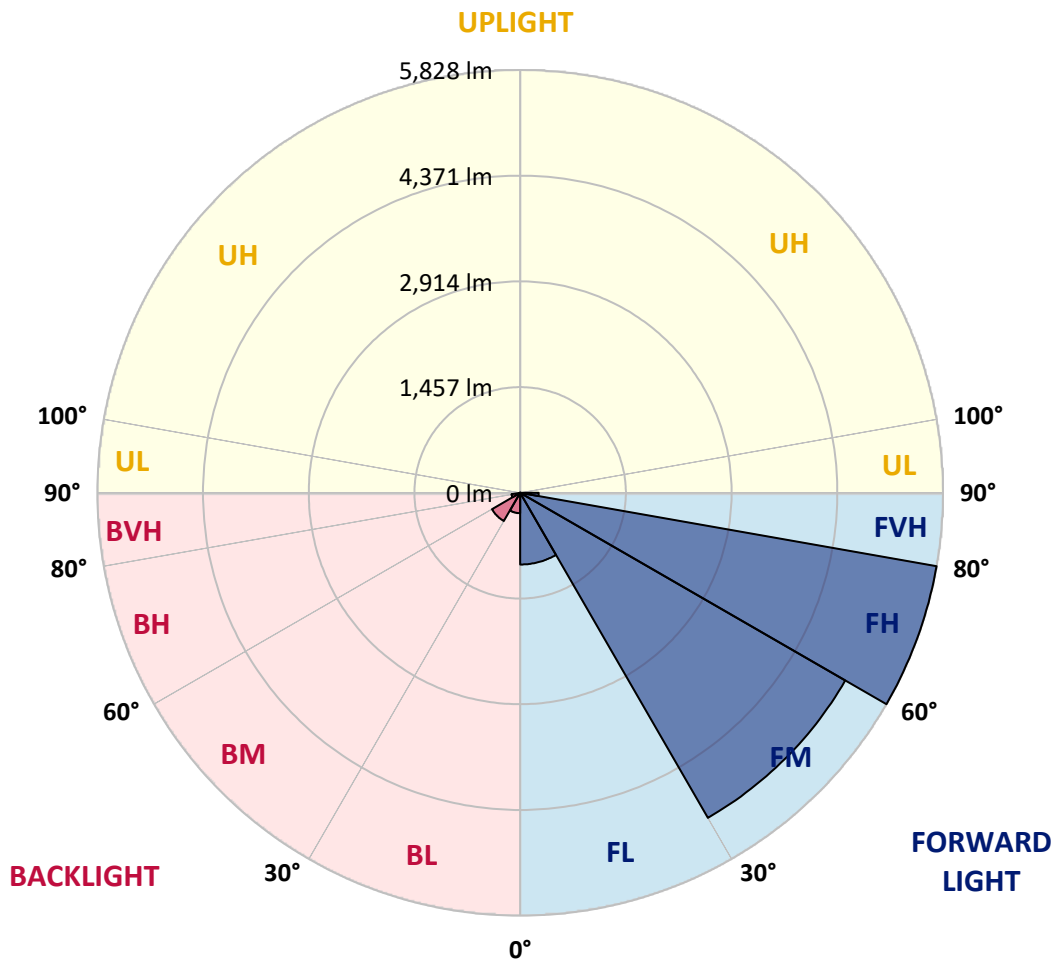
CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-800-HSS

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	988.3	7.5			
FM	(30°-60°)	5173.2	39.5			
FH	(60°-80°)	5827.6	44.5			G3/7500
FVH	(80°-90°)	255.1	1.9			G3/500
BL	(0°-30°)	281.2	2.1	B1/500		
BM	(30°-60°)	449.3	3.4	B1/1000		
BH	(60°-80°)	120.7	0.9	B1/500		G1/500
BVH	(80°-90°)	7.6	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-G3**

Type IV Short





REPORT NUMBER: P197122

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-800-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2
2.5°	2233.2	2237.3	2232.2	2222.9	2209.5	2201.3	2189.9	2165.2	2134.3	2107.5	2076.6
5°	2250.7	2252.8	2246.6	2229.1	2208.5	2197.1	2182.7	2155.9	2124.0	2086.9	2031.3
7.5°	2255.9	2254.8	2247.6	2226.0	2194.0	2179.6	2154.9	2121.9	2089.0	2055.0	1992.2
10°	2253.8	2253.8	2248.6	2228.0	2192.0	2178.6	2150.8	2115.8	2074.6	2040.6	1973.6
12.5°	2246.6	2250.7	2247.6	2236.3	2209.5	2199.2	2174.5	2139.5	2100.3	2065.3	1994.2
15°	2255.9	2262.0	2268.2	2264.1	2248.6	2239.4	2216.7	2180.7	2148.7	2111.6	2035.4
17.5°	2292.9	2306.3	2320.7	2321.8	2305.3	2288.8	2263.1	2226.0	2195.1	2161.1	2078.7
20°	2363.0	2373.3	2400.1	2405.2	2372.2	2348.6	2312.5	2269.2	2238.3	2209.5	2118.9
22.5°	2467.0	2478.3	2500.0	2492.8	2437.1	2409.3	2364.0	2314.6	2282.6	2266.2	2165.2
25°	2624.6	2627.7	2632.9	2600.9	2509.2	2478.3	2422.7	2367.1	2341.3	2339.3	2231.1
27.5°	2810.0	2814.1	2791.5	2720.4	2589.6	2549.4	2486.6	2436.1	2423.8	2439.2	2314.6
30°	3022.2	3023.3	2960.4	2845.0	2682.3	2638.0	2573.1	2517.5	2528.8	2566.9	2421.7
32.5°	3239.6	3229.3	3142.7	2992.3	2809.0	2755.4	2699.8	2644.2	2677.1	2754.4	2578.3
35°	3438.4	3434.2	3332.3	3157.2	2973.8	2926.4	2886.3	2827.5	2881.1	3006.8	2791.5
37.5°	3637.2	3634.1	3517.7	3335.4	3176.7	3142.7	3112.9	3067.5	3155.1	3339.5	3076.8
40°	3856.6	3851.4	3708.2	3533.1	3412.6	3394.1	3376.6	3357.0	3506.4	3762.8	3432.2
42.5°	4127.5	4104.8	3910.1	3748.4	3672.2	3677.3	3678.4	3697.9	3931.8	4266.5	3851.4
45°	4438.6	4388.1	4113.1	3979.2	3957.5	3988.4	4019.3	4100.7	4427.2	4846.5	4315.0
47.5°	4740.4	4659.0	4346.9	4227.4	4271.7	4335.6	4409.7	4568.4	4983.5	5453.2	4735.2
50°	5000.0	4916.5	4578.7	4479.8	4620.9	4715.7	4847.5	5087.5	5570.6	5966.2	5000.0
52.5°	5203.9	5138.0	4823.8	4757.9	5008.2	5138.0	5345.0	5660.2	6124.8	6304.0	5185.4
55°	5354.3	5321.3	5058.7	5067.9	5438.8	5626.2	5883.8	6240.2	6592.4	6566.7	5324.4
57.5°	5524.3	5498.5	5304.9	5433.6	5956.9	6199.0	6496.6	6783.0	6932.4	6777.9	5460.4
60°	5698.3	5706.6	5603.6	5876.5	6597.6	6865.4	7125.0	7196.1	7223.9	6992.1	5603.6
62.5°	5830.2	5865.2	5874.5	6354.5	7254.8	7483.4	7595.7	7545.3	7539.1	7279.5	5592.2
65°	5981.6	6073.3	6225.7	6878.8	7852.2	8002.6	8082.9	8156.1	8001.6	7365.0	5042.2
67.5°	6243.2	6387.5	6730.5	7521.6	8542.4	8764.9	8992.5	8915.2	8070.6	6496.6	3841.1
70°	6595.5	6771.7	7377.4	8361.1	9478.7	9851.6	10042.1	8854.5	6852.0	4489.0	2026.1
72°	6373.0	6532.7	7577.2	8789.6	10142.1	10484.0	10007.1	7723.5	4967.0	2326.9	678.8
72.5°	6156.7	6321.5	7513.3	8784.4	10208.0	10469.6	9779.5	7277.4	4395.3	1810.9	467.7
75°	4271.7	4479.8	6441.0	7896.5	9218.1	8930.7	7482.4	4406.6	1592.5	311.1	154.5
77.5°	2208.5	2369.2	3907.1	5579.9	6424.5	5883.8	4422.1	1911.8	440.9	164.8	102.0
80°	1369.0	1448.3	1827.3	2749.3	3337.4	2919.2	1951.0	772.6	282.2	97.9	81.4
82.5°	708.7	769.5	1150.6	1109.4	1233.0	1024.9	720.0	646.9	174.1	60.8	83.4
85°	232.8	247.2	706.6	737.5	527.4	354.3	319.3	617.0	50.5	39.1	71.1
87.5°	30.9	36.1	248.2	422.3	259.6	160.7	191.6	217.3	17.5	21.6	19.6
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: P197122

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030-800-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2	2097.2
2.5°	2056.0	2042.6	2000.4	1958.2	1909.7	1865.5	1830.4	1807.8	1818.1	1784.1	1789.2
5°	1997.3	1963.3	1870.6	1770.7	1662.5	1561.6	1481.2	1421.5	1410.2	1358.7	1360.7
7.5°	1940.6	1885.0	1734.6	1569.8	1390.6	1245.4	1113.5	998.1	956.9	914.7	890.0
10°	1909.7	1833.5	1620.3	1380.3	1127.9	914.7	729.3	584.0	523.3	479.0	457.4
12.5°	1919.0	1818.1	1534.8	1208.3	876.6	605.7	412.0	305.9	268.8	248.2	241.0
15°	1949.9	1821.2	1457.5	1040.4	637.6	366.7	242.1	207.0	204.0	202.9	201.9
17.5°	1978.8	1824.3	1376.2	865.3	426.4	233.8	194.7	191.6	191.6	191.6	191.6
20°	2008.6	1825.3	1286.6	681.9	280.2	191.6	183.4	181.3	183.4	183.4	183.4
22.5°	2043.7	1832.5	1200.0	503.7	207.0	180.3	175.1	174.1	175.1	175.1	174.1
25°	2086.9	1847.9	1106.3	360.5	187.5	173.1	167.9	166.9	167.9	166.9	166.9
27.5°	2144.6	1868.5	997.1	258.5	179.2	165.8	160.7	160.7	160.7	159.7	159.7
30°	2218.8	1893.3	850.8	204.0	171.0	158.6	154.5	154.5	153.5	152.5	152.5
32.5°	2324.9	1933.4	691.2	184.4	161.7	149.4	145.2	146.3	145.2	144.2	143.2
35°	2475.3	1996.3	533.6	174.1	152.5	140.1	136.0	136.0	136.0	133.9	133.9
37.5°	2688.5	2092.1	399.7	163.8	143.2	130.8	125.7	125.7	124.6	122.6	123.6
40°	2952.2	2212.6	289.4	154.5	133.9	120.5	116.4	114.3	112.3	110.2	110.2
42.5°	3269.4	2330.0	217.3	145.2	124.6	112.3	107.1	105.1	100.9	98.9	97.9
45°	3624.8	2454.7	180.3	133.9	114.3	103.0	98.9	94.8	89.6	86.5	85.5
47.5°	3924.6	2530.9	160.7	122.6	104.0	93.7	89.6	83.4	77.3	75.2	75.2
50°	4104.8	2498.9	144.2	111.2	93.7	84.5	79.3	71.1	67.0	64.9	63.9
52.5°	4205.8	2404.2	130.8	102.0	84.5	74.2	67.0	59.7	57.7	55.6	55.6
55°	4274.8	2267.2	116.4	92.7	76.2	64.9	56.7	51.5	49.4	48.4	47.4
57.5°	4340.7	2100.3	103.0	84.5	68.0	57.7	48.4	46.4	42.2	41.2	41.2
60°	4360.3	1870.6	90.6	75.2	60.8	50.5	42.2	39.1	35.0	34.0	34.0
62.5°	4111.0	1488.4	80.3	63.9	53.6	43.3	37.1	33.0	28.8	28.8	28.8
65°	3435.3	1010.5	69.0	55.6	47.4	37.1	31.9	26.8	24.7	24.7	24.7
67.5°	2392.8	563.4	58.7	47.4	40.2	30.9	26.8	22.7	21.6	22.7	22.7
70°	1078.5	223.5	49.4	39.1	33.0	25.8	22.7	19.6	21.6	21.6	21.6
72°	323.4	119.5	41.2	31.9	26.8	22.7	19.6	18.5	20.6	21.6	21.6
72.5°	240.0	107.1	39.1	30.9	26.8	21.6	18.5	18.5	20.6	21.6	21.6
75°	123.6	73.1	29.9	22.7	19.6	17.5	15.5	17.5	20.6	20.6	20.6
77.5°	96.8	59.7	24.7	17.5	16.5	15.5	14.4	16.5	18.5	18.5	18.5
80°	90.6	39.1	19.6	16.5	14.4	13.4	13.4	14.4	16.5	17.5	17.5
82.5°	91.7	31.9	17.5	15.5	13.4	12.4	12.4	13.4	15.5	16.5	16.5
85°	58.7	21.6	15.5	13.4	12.4	11.3	11.3	12.4	14.4	15.5	15.5
87.5°	19.6	16.5	13.4	12.4	10.3	10.3	10.3	10.3	12.4	13.4	14.4
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)