

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: P196775

Luminaire Tested: **NAV-AF-05-D-UNV-T2R-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196775
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-05-D-UNV-T2R-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33431.2 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 320
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

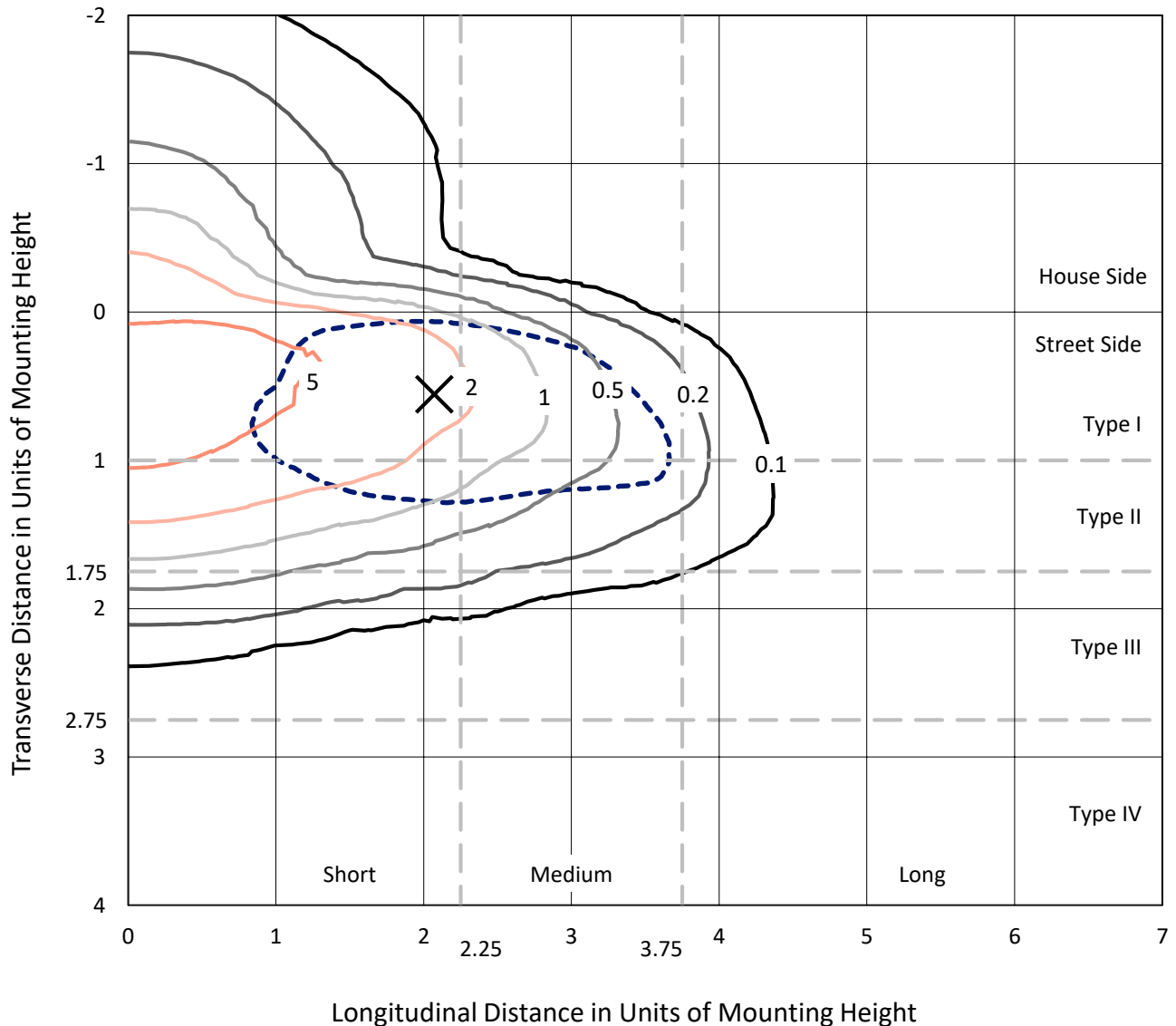


REPORT NUMBER: P196775

CATALOG NUMBER: NAV-AF-05-D-UNV-T2R-7030-1200

Iso-Footcandle Lines of Horizontal Illumination

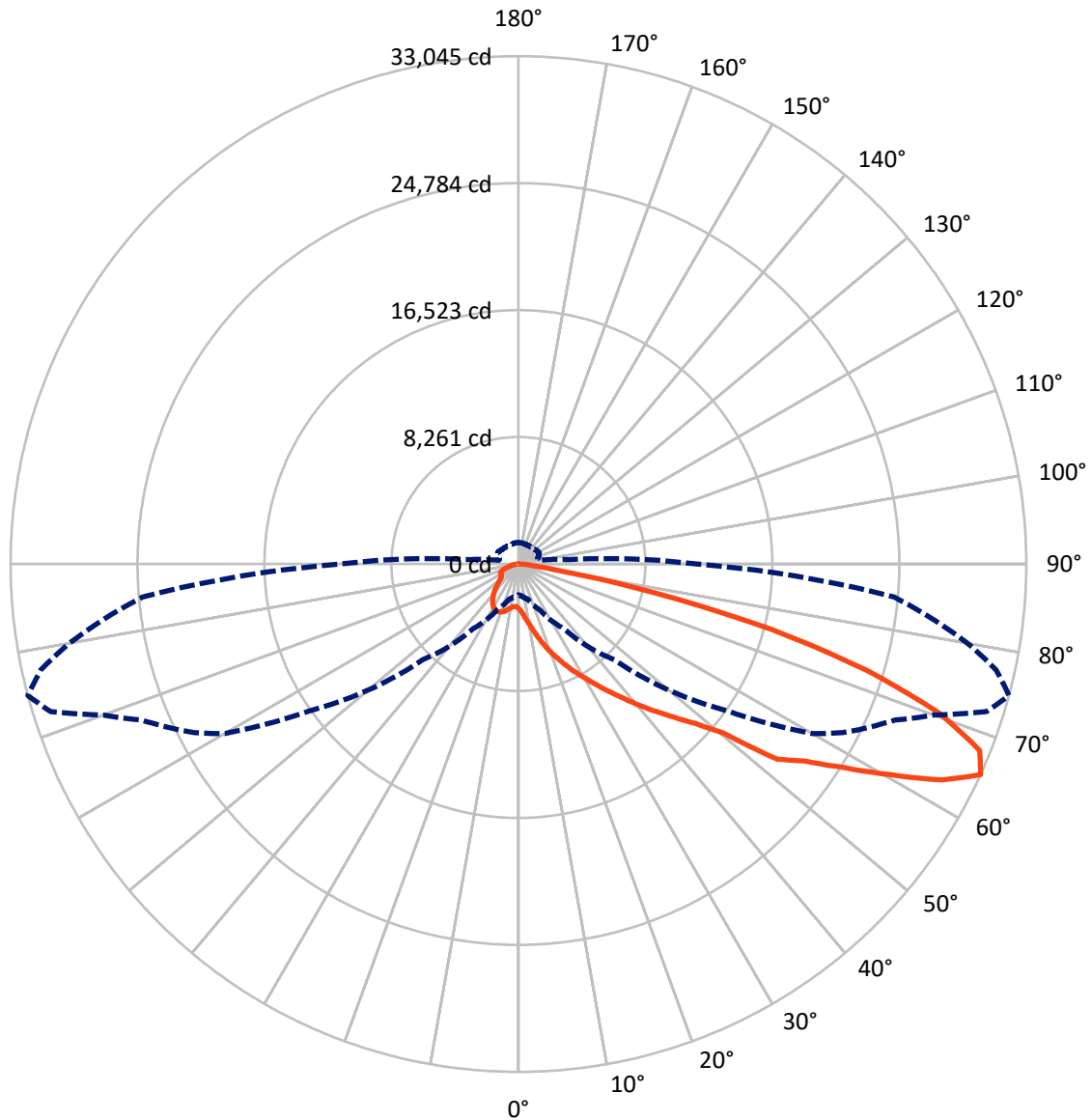
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 9.2 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P196775
CATALOG NUMBER: NAV-AF-05-D-UNV-T2R-7030-1200

Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P196775

CATALOG NUMBER: NAV-AF-05-D-UNV-T2R-7030-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5023.5	0.0	5023.5
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	28407.6	0.0	28407.6
	% Fixture	85.0	0.0	85.0
Total	Lumens	33431.2	0.0	33431.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	342.0	1.0
10°-20°	1306.1	3.9
20°-30°	2635.9	7.9
30°-40°	4476.5	13.4
40°-50°	6243.6	18.7
50°-60°	7652.4	22.9
60°-70°	7199.8	21.5
70°-80°	3157.1	9.4
80°-90°	417.7	1.2
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°	33431.2	100.0
0°-180°	33431.2	100.0

Coefficient of Utilization



REPORT NUMBER: P196775

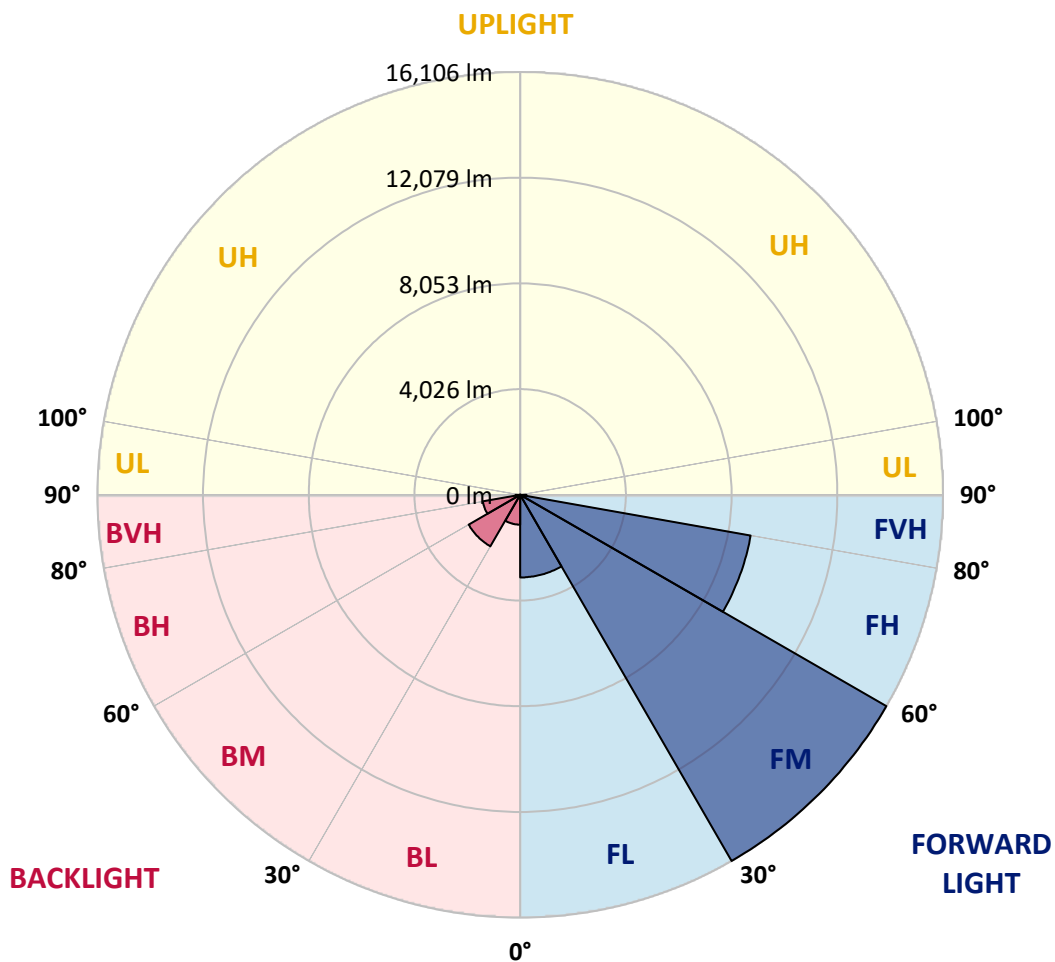
CATALOG NUMBER: NAV-AF-05-D-UNV-T2R-7030-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3146.8	9.4			
FM (30°-60°)	16105.6	48.2			
FH (60°-80°)	8913.0	26.7			G4/12000
FVH (80°-90°)	242.2	0.7			G3/500
BL (0°-30°)	1137.2	3.4	B3/2500		
BM (30°-60°)	2266.9	6.8	B2/2500		
BH (60°-80°)	1443.9	4.3	B3/2500		G3/2500
BVH (80°-90°)	175.6	0.5			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Short





REPORT NUMBER: P196775

CATALOG NUMBER: NAV-AF-05-D-UNV-T2R-7030-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6
2.5°	3647.3	3604.8	3609.1	3549.5	3462.3	3366.6	3287.9	3245.4	3209.3	3198.6	3139.0
5°	4770.3	4717.0	4697.9	4561.8	4357.7	4115.2	3874.9	3781.4	3704.8	3658.0	3543.2
7.5°	5689.0	5661.4	5635.8	5510.4	5308.4	4997.8	4610.7	4472.5	4344.9	4204.6	4066.3
10°	6314.3	6303.6	6293.0	6205.8	6037.7	5767.7	5350.9	5199.8	5040.3	4861.7	4680.8
12.5°	6786.4	6786.4	6795.0	6722.6	6620.4	6412.1	6033.6	5893.1	5731.5	5544.4	5338.1
15°	7103.3	7111.8	7156.5	7177.7	7124.6	6990.5	6658.8	6535.5	6382.3	6197.3	5993.1
17.5°	7313.9	7330.9	7396.8	7467.0	7534.9	7488.2	7241.4	7126.7	6988.4	6818.4	6626.9
20°	7803.0	7781.7	7783.8	7762.6	7862.6	7898.7	7762.6	7666.8	7556.3	7401.0	7226.6
22.5°	8830.3	8789.8	8685.6	8419.7	8298.5	8285.7	8205.0	8153.9	8068.8	7971.0	7796.6
25°	10170.1	10123.2	9916.9	9478.8	9117.2	8783.4	8634.5	8602.6	8547.4	8481.4	8355.9
27.5°	11554.5	11503.5	11237.7	10684.7	10212.6	9538.4	9074.7	9032.3	8981.2	8953.6	8894.0
30°	12773.2	12717.9	12456.2	11894.8	11324.8	10520.9	9668.2	9519.2	9432.1	9440.5	9406.5
32.5°	13842.9	13794.0	13500.5	12928.4	12349.9	11569.4	10438.0	10206.1	10010.6	9938.2	9963.7
35°	14740.3	14695.7	14374.5	13798.3	13215.5	12566.9	11429.1	11080.3	10761.3	10561.3	10537.9
37.5°	15267.8	15242.2	15016.8	14527.6	13949.2	13472.9	12539.1	12152.2	11682.1	11390.8	11263.2
40°	15238.1	15265.7	15227.4	15006.2	14557.4	14210.8	13696.0	13313.4	12854.0	12420.0	12160.7
42.5°	14804.2	14842.5	15014.7	15129.5	15008.3	14797.7	14706.3	14421.3	14008.7	13549.4	13190.0
45°	14208.6	14242.7	14466.0	14880.7	15227.4	15286.9	15591.1	15448.6	15099.7	14708.5	14312.9
47.5°	13296.3	13362.2	13621.7	14281.0	15106.1	15680.4	16333.2	16399.2	16197.1	15874.0	15503.9
50°	11975.6	12062.8	12426.5	13364.4	14646.7	16084.5	17437.0	17688.0	17607.2	17279.7	16905.3
52.5°	10623.1	10710.2	11195.1	12192.6	13906.6	16250.3	18523.9	19166.0	19629.7	19967.9	20033.8
55°	9215.2	9312.9	9844.6	10993.0	12919.9	16039.8	19300.1	20029.5	20499.5	20852.5	20995.0
57.5°	7626.4	7737.0	8251.7	9412.9	11524.7	15193.4	20163.5	21197.1	21896.7	22441.2	22747.4
60°	5803.9	5942.1	6475.9	7645.6	9691.6	13572.7	20548.5	22077.6	23189.8	24006.6	24491.4
62.5°	3679.2	3819.6	4374.6	5589.0	7605.2	11358.8	19459.6	21690.4	23587.6	24795.6	25684.4
65°	2007.6	2069.3	2377.7	3292.2	5127.5	8813.2	16699.0	19329.8	22062.7	23774.7	25140.0
67.5°	1505.7	1514.3	1546.1	1769.5	2730.7	5950.6	13055.9	15465.5	18500.5	20703.7	22334.9
70°	1318.5	1318.5	1322.8	1325.0	1482.3	3224.1	8845.1	11063.3	13845.0	16073.7	18100.6
72.5°	1182.5	1169.7	1165.5	1139.9	1161.2	1652.4	4814.9	6807.6	9153.4	11654.4	13545.1
75°	1020.8	1018.8	1018.8	993.1	1006.0	1163.3	2088.5	3266.7	5085.0	7413.8	9274.7
77.5°	882.6	867.7	869.8	855.0	895.4	891.1	991.1	1346.2	2213.9	3894.0	5438.1
80°	727.3	716.7	723.1	714.5	778.4	659.3	667.8	823.0	1099.4	1707.7	2407.4
82.5°	538.1	542.4	582.7	578.4	655.0	444.4	489.2	614.6	740.1	850.7	925.1
85°	314.7	321.1	419.0	440.2	480.6	234.0	299.9	365.8	412.6	457.2	476.4
87.5°	34.0	44.7	234.0	240.4	214.8	70.2	121.3	153.1	163.8	174.4	153.1
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: P196775

CATALOG NUMBER: NAV-AF-05-D-UNV-T2R-7030-1200

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6
2.5°	3119.9	3092.2	3062.5	3045.5	3015.7	2990.2	2943.5	2905.1	2862.6	2832.8	2820.1
5°	3485.7	3419.9	3349.6	3298.5	3234.7	3179.5	3073.1	2945.5	2905.1	2820.1	2798.7
7.5°	3962.1	3842.9	3723.9	3626.1	3515.5	3424.0	3245.4	3015.7	2985.9	2849.8	2820.1
10°	4521.4	4347.0	4170.5	4019.5	3857.8	3717.5	3453.8	3130.5	3098.6	2924.3	2894.5
12.5°	5146.6	4934.0	4706.5	4481.0	4289.6	4091.9	3732.4	3309.3	3258.1	3051.8	3011.4
15°	5791.1	5561.4	5297.7	5025.5	4789.4	4527.8	4074.9	3543.2	3449.6	3207.1	3151.8
17.5°	6426.9	6178.2	5901.6	5597.6	5321.0	5008.5	4444.8	3804.7	3643.1	3360.3	3290.1
20°	7041.6	6788.5	6497.1	6199.4	5854.8	5497.6	4823.5	4062.0	3815.4	3487.9	3396.5
22.5°	7600.9	7384.0	7092.7	6750.2	6401.5	5999.5	5208.4	4319.3	3966.3	3585.7	3468.7
25°	8190.1	7992.2	7703.0	7373.4	6967.1	6520.6	5606.1	4564.0	4087.6	3638.9	3494.2
27.5°	8785.5	8615.4	8343.1	7996.4	7560.5	7065.0	6010.2	4789.4	4185.4	3655.9	3481.4
30°	9421.4	9289.6	9038.6	8651.5	8211.3	7662.6	6450.3	5010.5	4247.1	3632.5	3424.0
32.5°	10023.2	10019.0	9795.7	9393.8	8919.5	8315.5	6914.0	5233.8	4279.0	3566.6	3324.1
35°	10648.5	10735.7	10567.7	10184.9	9685.1	9015.2	7426.6	5472.0	4281.1	3449.6	3194.3
37.5°	11358.8	11514.1	11439.7	11076.0	10550.7	9812.7	8028.4	5740.1	4268.3	3287.9	3005.0
40°	12167.0	12379.7	12377.6	12071.3	11509.8	10706.0	8728.0	6040.0	4238.6	3085.9	2781.7
42.5°	13092.1	13345.3	13415.4	13113.4	12545.5	11682.1	9529.9	6369.6	4191.7	2886.0	2545.7
45°	14151.3	14374.5	14506.5	14225.7	13655.8	12745.5	10450.7	6743.8	4134.4	2628.7	2275.7
47.5°	15284.9	15544.2	15742.1	15501.7	14893.4	13957.8	11541.7	7226.6	4113.1	2335.2	1984.2
50°	16690.6	16958.5	17386.0	17277.5	16943.6	16190.8	13849.2	8366.5	4121.6	2056.6	1739.6
52.5°	20178.4	20793.0	21333.2	21092.9	20299.6	19008.7	15725.0	9000.3	3942.9	1829.0	1569.5
55°	21231.1	21928.7	22726.3	22626.3	21864.9	20563.3	17207.4	9529.9	3770.6	1663.2	1458.9
57.5°	23073.0	23895.9	25010.3	24989.0	24055.4	22590.1	19115.0	10163.7	3696.2	1567.5	1403.7
60°	25023.1	26071.6	27611.4	27851.6	26837.3	25312.3	21369.4	10942.0	3706.8	1514.3	1371.8
62.5°	26448.0	27985.6	30225.1	30943.9	29748.7	28068.6	23708.8	11720.4	3643.1	1452.6	1333.5
65°	26535.1	28749.2	31926.4	33045.1	31835.0	29676.4	24533.9	11567.3	3260.3	1369.6	1271.8
67.5°	24408.5	27292.3	31152.3	32379.4	31141.7	28685.4	23087.8	10112.6	2649.9	1225.1	1165.5
70°	20329.5	23676.9	27683.7	29051.2	28028.2	25542.0	20093.4	8077.3	1980.0	1033.6	1006.0
72.5°	15710.2	18832.2	22471.1	23736.5	22953.7	20767.5	15848.4	5886.8	1414.3	837.9	816.7
75°	11231.3	13889.7	16531.0	17013.9	16241.8	14234.2	10282.7	3677.1	991.1	686.9	657.2
77.5°	6954.4	8683.4	9632.0	9010.9	8026.3	6671.6	4185.4	1816.2	659.3	559.3	529.6
80°	3085.9	3621.8	3381.5	3013.6	2379.7	1956.7	1278.2	806.0	425.3	431.7	414.7
82.5°	1037.9	1097.4	1067.6	1061.2	957.0	837.9	542.4	348.7	238.1	276.4	270.1
85°	506.2	529.6	531.6	550.7	478.5	372.1	146.7	138.2	102.0	148.9	155.2
87.5°	153.1	155.2	140.4	153.1	123.4	85.1	27.7	38.2	19.1	36.2	36.2
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: P196775

CATALOG NUMBER: NAV-AF-05-D-UNV-T2R-7030-1200

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6
2.5°	2796.6	2788.2	2773.2	2756.3	2752.0	2730.7	2724.4	2713.7	2707.3	2696.7	2688.3
5°	2771.2	2756.3	2739.2	2720.1	2720.1	2690.3	2677.5	2664.9	2664.9	2645.6	2637.2
7.5°	2796.6	2777.5	2758.4	2741.4	2747.8	2713.7	2701.0	2688.3	2686.0	2666.9	2658.4
10°	2868.9	2849.8	2826.4	2809.4	2803.0	2775.4	2760.6	2741.4	2728.6	2715.8	2703.1
12.5°	2979.5	2954.1	2924.3	2888.0	2873.2	2849.8	2826.4	2800.9	2771.2	2758.4	2739.2
15°	3111.3	3068.9	3028.4	2983.8	2943.5	2920.0	2888.0	2847.8	2807.3	2790.3	2764.7
17.5°	3219.9	3175.2	3117.8	3064.6	2992.3	2973.2	2928.4	2879.6	2813.7	2807.3	2768.9
20°	3311.3	3243.3	3173.1	3109.3	2998.7	2988.0	2932.7	2875.3	2781.7	2781.7	2735.0
22.5°	3362.4	3268.8	3185.9	3100.8	2962.6	2954.1	2890.2	2822.1	2707.3	2711.6	2654.1
25°	3370.8	3258.1	3154.0	3051.8	2892.3	2877.5	2796.6	2722.2	2596.8	2588.3	2528.7
27.5°	3336.9	3205.0	3083.8	2960.4	2788.2	2756.3	2666.9	2577.7	2454.3	2432.9	2369.2
30°	3258.1	3102.9	2966.8	2824.3	2643.5	2592.5	2498.9	2407.4	2282.0	2254.3	2194.8
32.5°	3132.7	2956.1	2805.1	2662.6	2462.7	2398.9	2305.4	2213.9	2092.8	2071.4	2016.2
35°	2966.8	2768.9	2609.5	2458.6	2258.6	2192.7	2103.3	2022.5	1911.9	1903.4	1865.2
37.5°	2758.4	2552.1	2382.0	2237.3	2048.1	2013.9	1922.5	1863.0	1771.5	1780.1	1760.9
40°	2522.2	2311.7	2150.1	2022.5	1858.7	1829.0	1773.8	1729.0	1650.4	1673.8	1675.8
42.5°	2284.1	2073.5	1926.8	1811.9	1671.5	1652.4	1614.2	1588.6	1529.1	1575.9	1595.0
45°	2013.9	1818.4	1692.9	1605.7	1501.4	1501.4	1482.3	1480.3	1439.8	1505.7	1524.8
47.5°	1752.4	1599.3	1512.1	1458.9	1386.6	1420.7	1414.3	1431.3	1401.5	1469.5	1486.6
50°	1554.6	1448.3	1395.1	1369.6	1318.5	1371.8	1384.6	1408.0	1382.3	1441.9	1454.7
52.5°	1429.1	1358.9	1329.2	1322.8	1286.6	1352.6	1373.8	1395.1	1365.4	1420.7	1418.5
55°	1358.9	1312.2	1301.6	1314.3	1286.6	1350.5	1371.8	1386.6	1361.2	1399.4	1397.2
57.5°	1333.5	1308.0	1314.3	1333.5	1314.3	1367.5	1378.1	1395.1	1369.6	1386.6	1395.1
60°	1331.4	1331.4	1356.9	1382.3	1369.6	1408.0	1414.3	1412.1	1388.8	1390.9	1395.1
62.5°	1318.5	1350.5	1393.0	1433.4	1429.1	1476.0	1480.3	1452.6	1433.4	1412.1	1405.7
65°	1278.2	1331.4	1393.0	1448.3	1456.9	1529.1	1537.6	1510.0	1497.2	1461.1	1433.4
67.5°	1188.8	1256.9	1329.2	1397.2	1412.1	1510.0	1529.1	1539.8	1546.1	1522.7	1486.6
70°	1037.9	1108.0	1182.5	1261.2	1282.3	1390.9	1431.3	1480.3	1518.4	1552.5	1539.8
72.5°	844.3	908.2	971.9	1044.2	1076.1	1188.8	1242.1	1327.1	1386.6	1473.8	1510.0
75°	669.9	708.2	746.5	791.1	816.7	927.3	993.1	1095.3	1176.0	1297.4	1378.1
77.5°	527.4	546.6	565.8	584.9	595.5	657.2	710.3	812.5	906.0	1059.2	1178.3
80°	406.2	416.9	419.0	425.3	421.0	450.9	470.1	531.6	612.5	763.5	903.9
82.5°	261.5	270.1	274.3	284.9	263.8	302.0	314.7	321.1	363.8	474.3	574.2
85°	146.7	148.9	151.0	155.2	125.4	163.8	165.8	155.2	151.0	195.7	221.1
87.5°	36.2	34.0	36.2	36.2	14.9	34.0	34.0	23.4	17.1	31.9	25.5
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: P196775

CATALOG NUMBER: NAV-AF-05-D-UNV-T2R-7030-1200

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	2896.6	2896.6	2896.6	2896.6	2896.6	2896.6
2.5°	2669.1	2664.9	2666.9	2656.3	2652.0	2654.1
5°	2626.5	2618.0	2618.0	2611.7	2603.1	2603.1
7.5°	2645.6	2628.7	2622.2	2609.5	2596.8	2598.8
10°	2675.4	2645.6	2624.4	2605.3	2590.3	2590.3
12.5°	2694.6	2641.4	2609.5	2584.0	2566.9	2566.9
15°	2698.8	2618.0	2571.2	2543.5	2526.5	2526.5
17.5°	2673.2	2571.2	2511.7	2475.5	2456.3	2460.6
20°	2609.5	2484.0	2413.9	2375.6	2356.4	2358.6
22.5°	2509.5	2364.9	2284.1	2239.5	2220.2	2220.2
25°	2373.4	2216.1	2128.8	2092.8	2075.7	2075.7
27.5°	2218.2	2056.6	1980.0	1952.4	1941.7	1941.7
30°	2043.8	1909.9	1854.4	1835.3	1818.4	1818.4
32.5°	1897.1	1801.3	1782.2	1756.7	1712.0	1709.9
35°	1780.1	1769.5	1754.6	1678.0	1614.2	1605.7
37.5°	1716.3	1780.1	1686.5	1554.6	1503.6	1501.4
40°	1682.3	1741.8	1580.1	1516.4	1510.0	1510.0
42.5°	1601.4	1644.0	1573.8	1537.6	1537.6	1539.8
45°	1516.4	1552.5	1588.6	1556.7	1567.5	1569.5
47.5°	1456.9	1529.1	1588.6	1561.0	1582.3	1595.0
50°	1401.5	1507.9	1556.7	1556.7	1580.1	1582.3
52.5°	1388.8	1478.1	1527.0	1550.4	1552.5	1541.8
55°	1390.9	1454.7	1503.6	1533.4	1520.6	1520.6
57.5°	1388.8	1441.9	1484.5	1495.1	1501.4	1501.4
60°	1390.9	1425.0	1458.9	1454.7	1476.0	1476.0
62.5°	1397.2	1401.5	1418.5	1414.3	1446.1	1446.1
65°	1412.1	1371.8	1361.2	1365.4	1403.7	1401.5
67.5°	1439.8	1331.4	1297.4	1299.4	1354.7	1346.2
70°	1480.3	1276.0	1225.1	1212.2	1305.7	1290.9
72.5°	1492.9	1212.2	1131.4	1118.7	1174.0	1131.4
75°	1433.4	1161.2	1031.5	988.9	965.6	952.7
77.5°	1278.2	1129.3	927.3	837.9	801.8	793.2
80°	1059.2	1063.3	791.1	684.8	795.4	793.2
82.5°	799.7	918.8	633.8	593.4	576.4	480.6
85°	387.1	691.2	487.0	408.3	244.5	231.8
87.5°	34.0	289.2	280.7	182.9	82.9	78.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)