

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: P197240

Luminaire Tested: **NAV-AF-02-D-UNV-T2R-8030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197240
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-02-D-UNV-T2R-8030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8415 lumens
Efficiency: N/A
Efficacy: 99.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 85
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

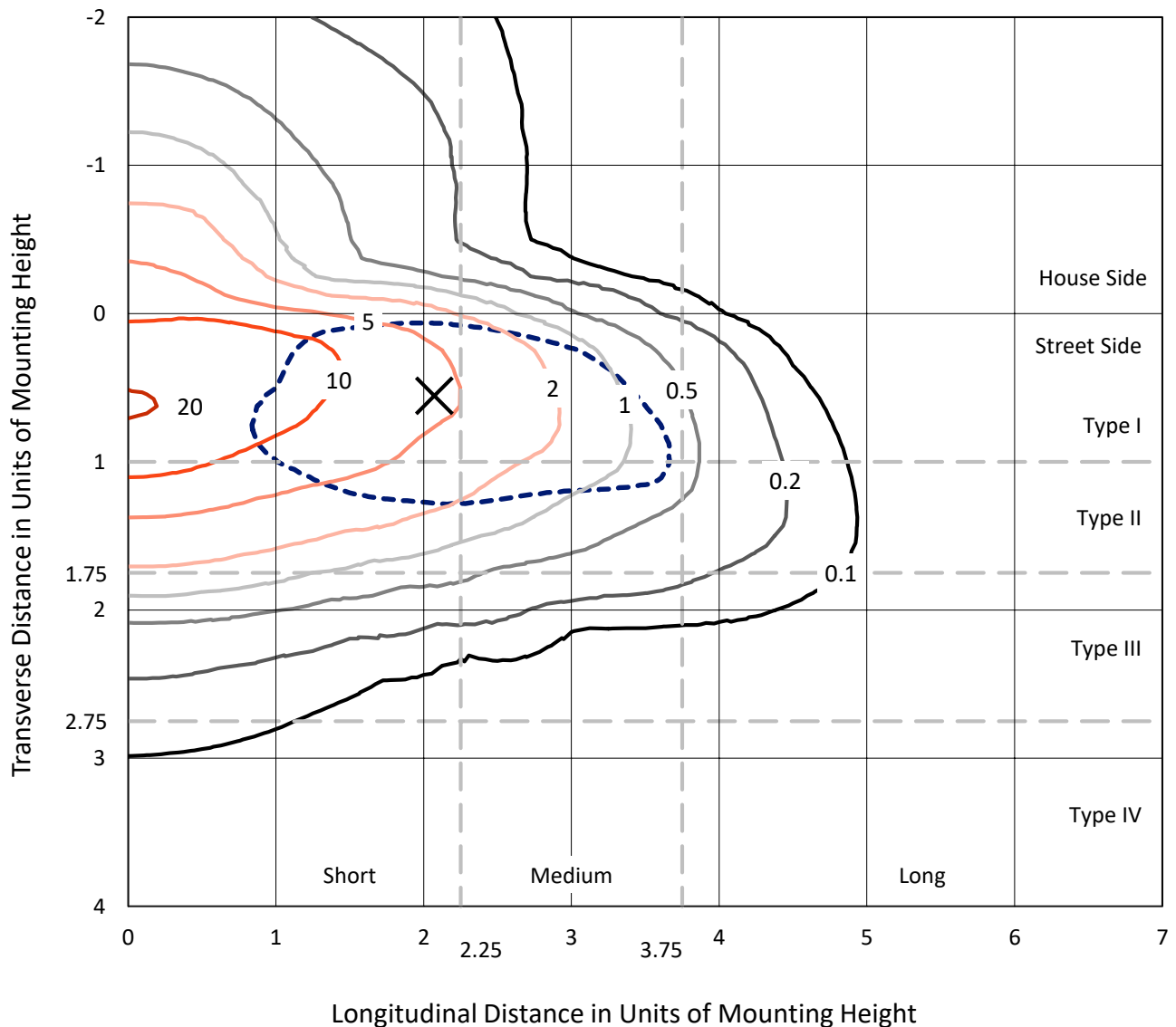


REPORT NUMBER: P197240

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-8030-800

Iso-Footcandle Lines of Horizontal Illumination

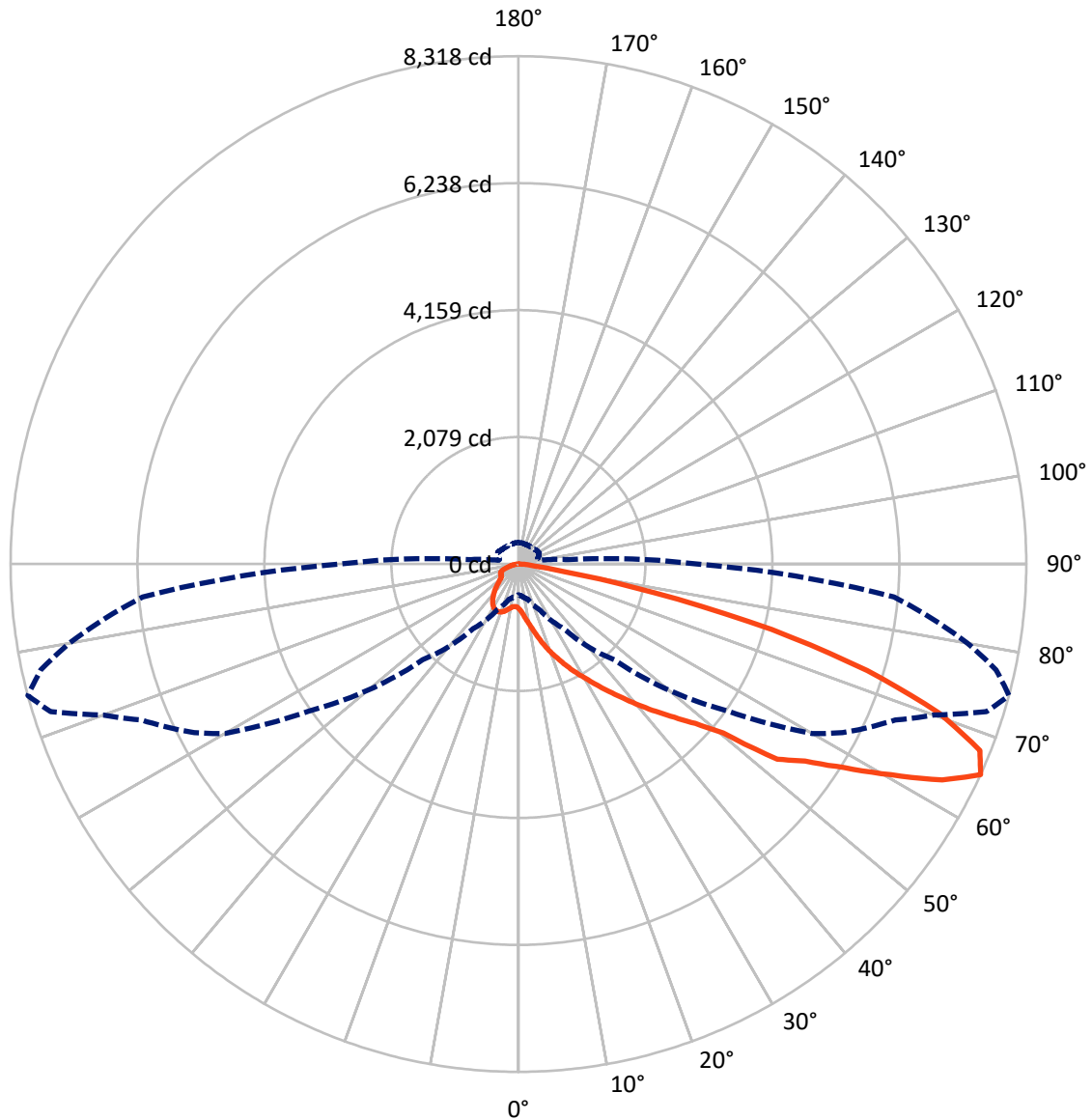
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.9 fc
 Type II - Short - Semi-Cutoff

REPORT NUMBER: P197240
CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-8030-800

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197240

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-8030-800

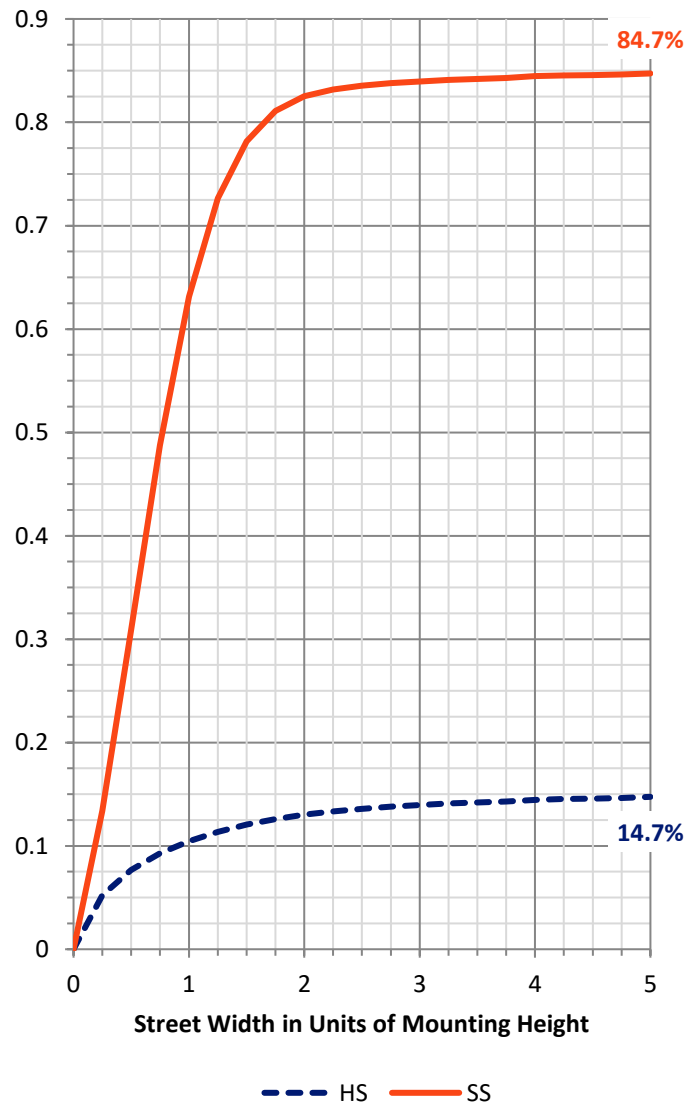
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1264.5	0.0	1264.5
	% Fixture	15.0	0.0	15.0
Street Side	Lumens	7150.5	0.0	7150.5
	% Fixture	85.0	0.0	85.0
Total	Lumens	8415.0	0.0	8415.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.1	1.0
10°-20°	328.8	3.9
20°-30°	663.5	7.9
30°-40°	1126.8	13.4
40°-50°	1571.6	18.7
50°-60°	1926.2	22.9
60°-70°	1812.3	21.5
70°-80°	794.7	9.4
80°-90°	105.2	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°	8415.0	100.0
0°-180°	8415.0	100.0

Coefficient of Utilization



REPORT NUMBER: P197240

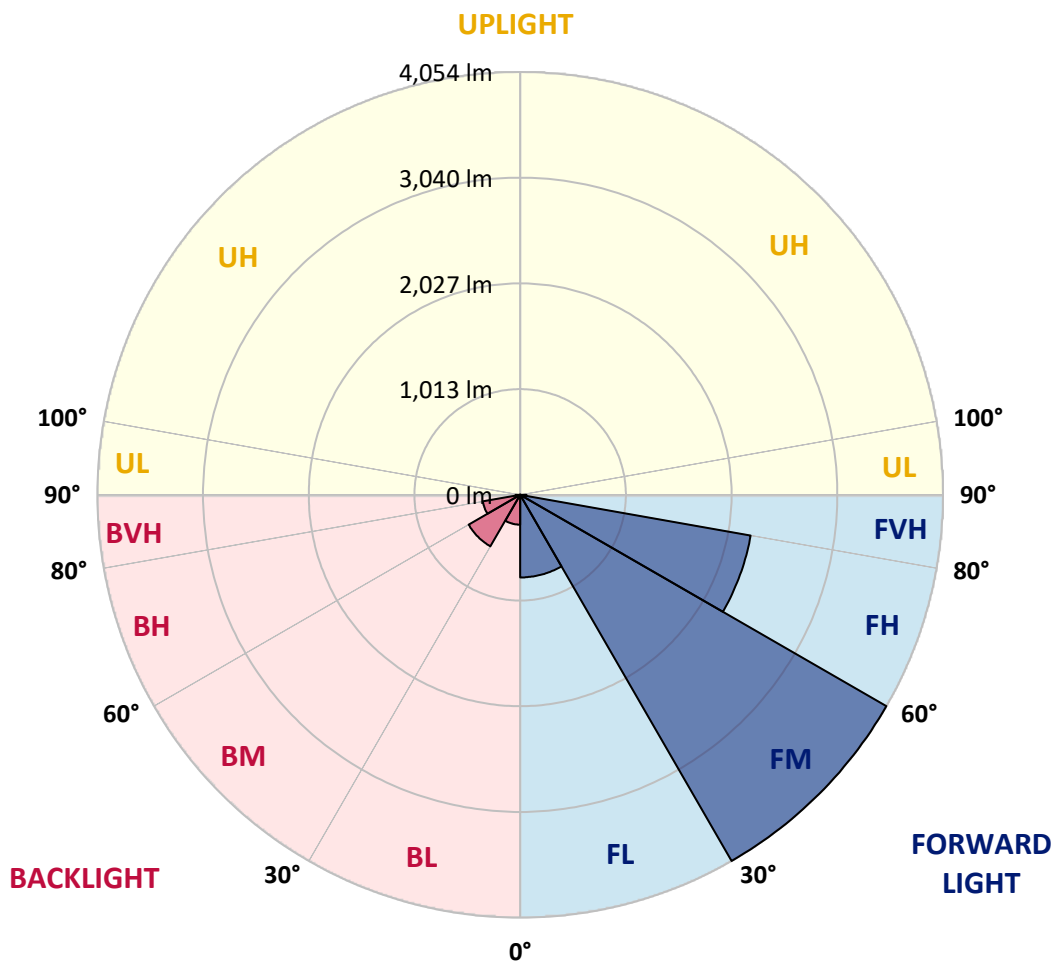
CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-8030-800

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	792.1	9.4			
FM	(30°-60°)	4054.0	48.2			
FH	(60°-80°)	2243.5	26.7			G2/5000
FVH	(80°-90°)	61.0	0.7			G1/100
BL	(0°-30°)	286.3	3.4	B1/500		
BM	(30°-60°)	570.6	6.8	B1/1000		
BH	(60°-80°)	363.4	4.3	B1/500		G1/500
BVH	(80°-90°)	44.2	0.5			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 II Short





REPORT NUMBER: P197240

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-8030-800

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1
2.5°	918.1	907.4	908.4	893.5	871.5	847.4	827.6	816.9	807.8	805.1	790.1
5°	1200.7	1187.3	1182.5	1148.3	1096.9	1035.8	975.4	951.8	932.5	920.8	891.8
7.5°	1432.0	1425.0	1418.6	1387.0	1336.2	1258.0	1160.6	1125.8	1093.7	1058.3	1023.5
10°	1589.4	1586.7	1584.0	1562.1	1519.8	1451.8	1346.9	1308.9	1268.7	1223.7	1178.2
12.5°	1708.2	1708.2	1710.4	1692.2	1666.5	1614.0	1518.7	1483.4	1442.7	1395.6	1343.7
15°	1788.0	1790.1	1801.4	1806.7	1793.3	1759.6	1676.1	1645.0	1606.5	1559.9	1508.5
17.5°	1841.0	1845.3	1861.8	1879.5	1896.6	1884.9	1822.8	1793.9	1759.1	1716.2	1668.1
20°	1964.1	1958.7	1959.3	1953.9	1979.1	1988.2	1953.9	1929.8	1902.0	1862.9	1819.0
22.5°	2222.7	2212.5	2186.3	2119.3	2088.8	2085.6	2065.3	2052.4	2031.0	2006.4	1962.5
25°	2559.9	2548.1	2496.2	2385.9	2294.9	2210.9	2173.4	2165.4	2151.5	2134.9	2103.3
27.5°	2908.4	2895.6	2828.6	2689.5	2570.6	2400.9	2284.2	2273.5	2260.7	2253.7	2238.7
30°	3215.1	3201.2	3135.4	2994.1	2850.6	2648.2	2433.6	2396.1	2374.2	2376.3	2367.7
32.5°	3484.4	3472.1	3398.2	3254.2	3108.6	2912.2	2627.4	2569.0	2519.8	2501.6	2508.0
35°	3710.3	3699.1	3618.2	3473.2	3326.5	3163.2	2876.8	2789.0	2708.7	2658.4	2652.5
37.5°	3843.1	3836.7	3779.9	3656.8	3511.2	3391.3	3156.3	3058.8	2940.5	2867.2	2835.1
40°	3835.6	3842.5	3832.9	3777.2	3664.3	3577.0	3447.5	3351.1	3235.5	3126.3	3061.0
42.5°	3726.4	3736.0	3779.4	3808.3	3777.8	3724.8	3701.8	3630.0	3526.2	3410.5	3320.1
45°	3576.5	3585.0	3641.3	3745.6	3832.9	3847.9	3924.4	3888.6	3800.8	3702.3	3602.7
47.5°	3346.8	3363.4	3428.7	3594.7	3802.4	3946.9	4111.3	4127.9	4077.0	3995.6	3902.5
50°	3014.4	3036.3	3127.9	3364.0	3686.8	4048.6	4389.1	4452.3	4431.9	4349.5	4255.3
52.5°	2673.9	2695.9	2817.9	3069.0	3500.5	4090.4	4662.7	4824.3	4941.0	5026.1	5042.7
55°	2319.5	2344.2	2478.0	2767.1	3252.1	4037.4	4858.0	5041.7	5160.0	5248.8	5284.7
57.5°	1919.7	1947.5	2077.0	2369.3	2900.9	3824.3	5075.4	5335.6	5511.7	5648.7	5725.8
60°	1460.9	1495.7	1630.1	1924.5	2439.5	3416.4	5172.3	5557.2	5837.1	6042.7	6164.8
62.5°	926.1	961.4	1101.2	1406.8	1914.3	2859.2	4898.2	5459.7	5937.3	6241.3	6465.1
65°	505.3	520.9	598.5	828.7	1290.7	2218.4	4203.3	4865.5	5553.4	5984.4	6328.0
67.5°	379.0	381.1	389.2	445.4	687.4	1497.8	3286.3	3892.9	4656.8	5211.4	5621.9
70°	331.9	331.9	333.0	333.5	373.1	811.5	2226.4	2784.7	3484.9	4046.0	4556.1
72.5°	297.6	294.4	293.4	286.9	292.3	415.9	1212.0	1713.6	2304.0	2933.6	3409.5
75°	257.0	256.4	256.4	250.0	253.2	292.8	525.7	822.3	1280.0	1866.1	2334.5
77.5°	222.2	218.4	218.9	215.2	225.4	224.3	249.5	338.9	557.3	980.2	1368.8
80°	183.1	180.4	182.0	179.9	195.9	165.9	168.1	207.2	276.8	429.9	606.0
82.5°	135.4	136.5	146.7	145.6	164.9	111.9	123.1	154.7	186.3	214.1	232.9
85°	79.2	80.8	105.5	110.8	121.0	58.9	75.5	92.1	103.9	115.1	119.9
87.5°	8.6	11.2	58.9	60.5	54.1	17.7	30.5	38.5	41.2	43.9	38.5
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: P197240

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-8030-800

CANDELA DISTRIBUTION (continued):

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1
2.5°	785.3	778.4	770.9	766.6	759.1	752.7	740.9	731.2	720.5	713.0	709.8
5°	877.4	860.8	843.1	830.3	814.2	800.3	773.5	741.4	731.2	709.8	704.5
7.5°	997.3	967.3	937.3	912.7	884.9	861.9	816.9	759.1	751.6	717.3	709.8
10°	1138.1	1094.2	1049.8	1011.8	971.1	935.7	869.4	788.0	780.0	736.1	728.6
12.5°	1295.5	1241.9	1184.7	1127.9	1079.7	1030.0	939.5	833.0	820.1	768.2	758.0
15°	1457.7	1399.9	1333.5	1265.0	1205.5	1139.7	1025.7	891.8	868.3	807.3	793.3
17.5°	1617.7	1555.1	1485.5	1409.0	1339.4	1260.7	1118.8	957.7	917.0	845.8	828.1
20°	1772.5	1708.7	1635.4	1560.5	1473.7	1383.8	1214.1	1022.5	960.4	877.9	854.9
22.5°	1913.2	1858.6	1785.3	1699.1	1611.3	1510.1	1311.0	1087.2	998.4	902.6	873.1
25°	2061.5	2011.7	1938.9	1856.0	1753.7	1641.3	1411.1	1148.8	1028.9	915.9	879.5
27.5°	2211.4	2168.6	2100.1	2012.8	1903.1	1778.3	1512.8	1205.5	1053.5	920.2	876.3
30°	2371.5	2338.3	2275.1	2177.7	2066.9	1928.8	1623.6	1261.2	1069.0	914.3	861.9
32.5°	2523.0	2521.9	2465.7	2364.5	2245.1	2093.1	1740.3	1317.4	1077.1	897.7	836.7
35°	2680.4	2702.3	2660.0	2563.7	2437.9	2269.2	1869.3	1377.4	1077.6	868.3	804.1
37.5°	2859.2	2898.2	2879.5	2788.0	2655.7	2470.0	2020.8	1444.8	1074.4	827.6	756.4
40°	3062.6	3116.1	3115.6	3038.5	2897.2	2694.8	2197.0	1520.3	1066.9	776.8	700.2
42.5°	3295.4	3359.1	3376.8	3300.8	3157.9	2940.5	2398.8	1603.3	1055.1	726.4	640.8
45°	3562.0	3618.2	3651.4	3580.8	3437.3	3208.2	2630.6	1697.5	1040.7	661.7	572.8
47.5°	3847.4	3912.7	3962.5	3902.0	3748.9	3513.3	2905.2	1819.0	1035.3	587.8	499.5
50°	4201.2	4268.7	4376.3	4349.0	4264.9	4075.4	3486.0	2106.0	1037.5	517.7	437.9
52.5°	5079.1	5233.8	5369.8	5309.3	5109.6	4784.7	3958.2	2265.5	992.5	460.4	395.1
55°	5344.1	5519.7	5720.4	5695.3	5503.6	5176.0	4331.3	2398.8	949.1	418.6	367.2
57.5°	5807.7	6014.9	6295.4	6290.0	6055.0	5686.2	4811.5	2558.3	930.4	394.5	353.3
60°	6298.6	6562.5	6950.1	7010.6	6755.2	6371.4	5378.9	2754.2	933.1	381.1	345.3
62.5°	6657.3	7044.3	7608.0	7788.9	7488.1	7065.2	5967.8	2950.2	917.0	365.6	335.6
65°	6679.2	7236.5	8036.3	8317.8	8013.2	7469.9	6175.5	2911.6	820.6	344.7	320.1
67.5°	6143.9	6869.8	7841.4	8150.3	7838.7	7220.4	5811.5	2545.5	667.0	308.3	293.4
70°	5117.1	5959.7	6968.3	7312.5	7055.0	6429.2	5057.7	2033.2	498.4	260.2	253.2
72.5°	3954.4	4740.3	5656.2	5974.7	5777.7	5227.4	3989.2	1481.8	356.0	210.9	205.6
75°	2827.0	3496.2	4161.1	4282.6	4088.3	3582.9	2588.3	925.6	249.5	172.9	165.4
77.5°	1750.5	2185.7	2424.5	2268.2	2020.3	1679.3	1053.5	457.2	165.9	140.8	133.3
80°	776.8	911.7	851.2	758.6	599.0	492.5	321.7	202.9	107.1	108.7	104.4
82.5°	261.2	276.2	268.7	267.1	240.9	210.9	136.5	87.8	60.0	69.6	68.0
85°	127.4	133.3	133.8	138.6	120.4	93.7	36.9	34.8	25.7	37.5	39.1
87.5°	38.5	39.1	35.3	38.5	31.0	21.4	7.0	9.6	4.8	9.1	9.1
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: P197240

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-8030-800

CANDELA DISTRIBUTION (continued):

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1	729.1
2.5°	703.9	701.8	698.1	693.8	692.7	687.4	685.7	683.1	681.5	678.8	676.6
5°	697.5	693.8	689.5	684.7	684.7	677.2	674.0	670.8	670.8	665.9	663.8
7.5°	703.9	699.1	694.3	690.0	691.6	683.1	679.9	676.6	676.1	671.3	669.2
10°	722.1	717.3	711.4	707.2	705.6	698.6	694.8	690.0	686.8	683.6	680.4
12.5°	750.0	743.6	736.1	727.0	723.2	717.3	711.4	705.0	697.5	694.3	689.5
15°	783.2	772.5	762.3	751.1	740.9	735.0	727.0	716.8	706.6	702.3	695.9
17.5°	810.5	799.2	784.8	771.4	753.2	748.4	737.1	724.8	708.2	706.6	697.0
20°	833.5	816.4	798.7	782.6	754.8	752.1	738.2	723.8	700.2	700.2	688.4
22.5°	846.3	822.8	801.9	780.5	745.7	743.6	727.5	710.4	681.5	682.5	668.1
25°	848.5	820.1	793.9	768.2	728.0	724.3	703.9	685.2	653.6	651.5	636.5
27.5°	839.9	806.7	776.2	745.2	701.8	693.8	671.3	648.8	617.8	612.4	596.3
30°	820.1	781.0	746.8	710.9	665.4	652.6	629.0	606.0	574.4	567.4	552.5
32.5°	788.5	744.1	706.1	670.2	619.9	603.8	580.3	557.3	526.8	521.4	507.5
35°	746.8	697.0	656.8	618.8	568.5	551.9	529.4	509.1	481.3	479.1	469.5
37.5°	694.3	642.4	599.6	563.2	515.5	506.9	483.9	468.9	445.9	448.1	443.2
40°	634.9	581.9	541.2	509.1	467.9	460.4	446.5	435.2	415.4	421.3	421.8
42.5°	574.9	521.9	485.0	456.1	420.8	415.9	406.3	399.9	384.9	396.7	401.5
45°	506.9	457.7	426.1	404.2	377.9	377.9	373.1	372.6	362.4	379.0	383.8
47.5°	441.1	402.6	380.6	367.2	349.0	357.6	356.0	360.3	352.8	369.9	374.2
50°	391.3	364.6	351.2	344.7	331.9	345.3	348.5	354.4	348.0	362.9	366.2
52.5°	359.7	342.1	334.6	333.0	323.9	340.5	345.8	351.2	343.7	357.6	357.1
55°	342.1	330.3	327.6	330.8	323.9	339.9	345.3	349.0	342.6	352.2	351.7
57.5°	335.6	329.2	330.8	335.6	330.8	344.2	346.9	351.2	344.7	349.0	351.2
60°	335.1	335.1	341.5	348.0	344.7	354.4	356.0	355.5	349.6	350.1	351.2
62.5°	331.9	339.9	350.6	360.8	359.7	371.5	372.6	365.6	360.8	355.5	353.8
65°	321.7	335.1	350.6	364.6	366.7	384.9	387.0	380.1	376.9	367.8	360.8
67.5°	299.2	316.4	334.6	351.7	355.5	380.1	384.9	387.6	389.2	383.3	374.2
70°	261.2	278.9	297.6	317.4	322.8	350.1	360.3	372.6	382.2	390.8	387.6
72.5°	212.5	228.6	244.6	262.8	270.9	299.2	312.6	334.0	349.0	371.0	380.1
75°	168.6	178.3	187.9	199.1	205.6	233.4	250.0	275.7	296.0	326.5	346.9
77.5°	132.8	137.6	142.4	147.2	149.9	165.4	178.8	204.5	228.0	266.6	296.6
80°	102.2	104.9	105.5	107.1	106.0	113.5	118.3	133.8	154.2	192.2	227.5
82.5°	65.8	68.0	69.1	71.7	66.4	76.0	79.2	80.8	91.5	119.4	144.5
85°	36.9	37.5	38.0	39.1	31.6	41.2	41.8	39.1	38.0	49.2	55.7
87.5°	9.1	8.6	9.1	9.1	3.7	8.6	8.6	5.9	4.3	8.0	6.4
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: P197240

CATALOG NUMBER: NAV-AF-02-D-UNV-T2R-8030-800

CANDELA DISTRIBUTION (continued):

	135°	145°	155°	165°	175°	180°
0°	729.1	729.1	729.1	729.1	729.1	729.1
2.5°	671.8	670.8	671.3	668.6	667.5	668.1
5°	661.1	659.0	659.0	657.4	655.2	655.2
7.5°	665.9	661.7	660.1	656.8	653.6	654.2
10°	673.4	665.9	660.6	655.8	652.0	652.0
12.5°	678.3	664.9	656.8	650.4	646.1	646.1
15°	679.3	659.0	647.2	640.2	636.0	636.0
17.5°	672.9	647.2	632.2	623.1	618.3	619.4
20°	656.8	625.3	607.6	598.0	593.1	593.7
22.5°	631.7	595.3	574.9	563.7	558.9	558.9
25°	597.4	557.8	535.9	526.8	522.5	522.5
27.5°	558.3	517.7	498.4	491.4	488.7	488.7
30°	514.4	480.7	466.8	462.0	457.7	457.7
32.5°	477.5	453.4	448.6	442.2	430.9	430.4
35°	448.1	445.4	441.6	422.4	406.3	404.2
37.5°	432.0	448.1	424.5	391.3	378.5	377.9
40°	423.4	438.4	397.7	381.7	380.1	380.1
42.5°	403.1	413.8	396.1	387.0	387.0	387.6
45°	381.7	390.8	399.9	391.9	394.5	395.1
47.5°	366.7	384.9	399.9	392.9	398.3	401.5
50°	352.8	379.5	391.9	391.9	397.7	398.3
52.5°	349.6	372.0	384.4	390.2	390.8	388.1
55°	350.1	366.2	378.5	386.0	382.8	382.8
57.5°	349.6	362.9	373.7	376.3	377.9	377.9
60°	350.1	358.7	367.2	366.2	371.5	371.5
62.5°	351.7	352.8	357.1	356.0	364.0	364.0
65°	355.5	345.3	342.6	343.7	353.3	352.8
67.5°	362.4	335.1	326.5	327.1	341.0	338.9
70°	372.6	321.2	308.3	305.1	328.7	324.9
72.5°	375.8	305.1	284.8	281.6	295.5	284.8
75°	360.8	292.3	259.6	248.9	243.0	239.8
77.5°	321.7	284.3	233.4	210.9	201.8	199.7
80°	266.6	267.7	199.1	172.4	200.2	199.7
82.5°	201.3	231.3	159.5	149.4	145.1	121.0
85°	97.4	174.0	122.6	102.8	61.6	58.4
87.5°	8.6	72.8	70.7	46.0	20.9	19.8
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)